OpenSystems Publishing

2ND ANNUAL COMPLETE PRODUCT RESOURCE GUIDE

CompactPCI® and AdvancedTCA® Systems

The Magazine for Developers of Open Communication, Industrial, and Rugged Systems
www.CompactPCI-Systems.com • www.AdvancedTCA-Systems.com

Volume 9 Number 2

Resource Guide

Including PCI, PCI Express, and Mezzanines

PLUS . . .

Executives speak out on trends

The Solid Core of Your Business

Your ePlatform Partner

ADVANTECH

RSC# 2 @www.compactpci-systems.com/rsc

The Brand of Preference for Ready-to-Go CompactPCI® Platforms

Efficiency - Advantech offers application-ready CompactPCI hardware platforms for your niche turnkey products.

Expertise - As your trusted ePlatform service provider, Advantech brings your telecom application to market fast with pre-integrated and verified CompactPCI standard systems.

Excellence - Advantech's proven CompactPCI platform lets you focus on development that adds real value to your business.

Ready-to-Go 6U CompactPCI® Platform Targets Telecom

Target Applications:

- An ideal application blade for integration into products that have high-performance and low-power consumption as key requirements
- CT server for telecom equipment manufacturer (TEMs)

MIC-3042
4U-High CompactPCI® Platform with Standard cPCI Power Supply (CT Bus or PICMG® 2.16)

MIC-3369A
6U CompactPCI® CPU Board with Intel® Pentium® M Processor and Intel® E7501 Chipset

MIC-8101
Intel® 6U cPCI 10/100 Ethernet Switch Blade

Intel® Communications Alliance Associate Member

 www.advantech.com

Pls. visit us at:
March 8-10, 2005
Booth# 1114, South Hall
Embedded Systems Conference San Francisco

Advantech Headquarters
Tel: 886-2-2792-7818
Email: MKT.ACL@advantech.com.tw

San Diego Office
for Network Computing Solutions
1949 Palomar Oaks Way, Suite B
Carlsbad, CA92009, USA
Toll Free: 1-800-557-6813
Email: ctinfo@advantech.com

Europe
Germany +49 89 12599 100 cpci.adl@advantech.de
Benelux +31 165 550 505 cpci.abn@advantech.nl
Italy +39 02 95 44 961 cpci.ait@advantech.it
France +33 1 41 19 46 66 cpci.afr@advantech.fr
U.K. +44 1908 304800 cpci.auk@advantech-uk.com

Tired of waiting for your front panels?

Simon Industries is a rapidly growing corporation that specializes in the design and manufacture of electronic packaging and thermal solutions for the embedded computer industry. Our goal is to be the premier supplier of custom front panels and hardware thermal solutions industry-wide, relying on the quality of our work, and short lead-times to realize your time-to-market demands.

Simon Industries' Front Panel Services:

- face plates (cPCI, VME, PMC's, ATCA, & PCI brackets) fully assembled to your specifications including: machining, finishing, silk-screening, painting, overlays, hot-swap switches and more
- quick-turn prototypes in less than 2 weeks
- high speed CNC's enable us to produce any quantity of customized designs quickly and efficiently
- all face plates can be customized with cutouts for connectors, specialized switches and LEDs
- engraving and specialized finishes available
- assorted handles readily available including all manufacturers (Schroff, Elma, Rittal, & APW)
- in stock fixed VME/VXI applications and various IEEE 01.10/11 compliant injectors/ejectors
- extensive experience designing custom handles to fit your application

Keys To Our Front Panel Success:

- operate on a rapid-standard lead-time of 2-3 weeks on all front panels and front panel assemblies - at **NO premium** to our customers
- focused on high-mix custom production rather than massive output of limited standardized products
- **NO minimum** order requirements
- **NO set-up fees** on customized cPCI, VME, PMC bezels!

From small prototype runs to high volume production, we deliver superior quality parts on time.

RSC# 3 @www.compactpci-systems.com/rsc

Simon™ INDUSTRIES

Precision Machining & Design Services

[919] 469 2004 ph • [919] 469 2827 fax
[800] 568 0339 toll free

sales@simonindustries.com
www.simonindustries.com

1003 Morrisville Parkway
Suite 100 • Morrisville, NC 27560

TABLE OF CONTENTS

features

8 Introducing the 2nd annual *CompactPCI & AdvancedTCA Systems Resource Guide*
By Joe Pavlat

10 Advancing the proposition
By Ian Colville, Aculab

14 AdvancedTCA: The merchant compute industry comes of age
By Rob Hilkes, Potentia

16 Impact technologies for 2005
By Dan Grey, SBE, Inc.

19 Open standards enable system-level application development
By Mark Skalabrin, Mercury Computer Systems, Inc.

22 AdvancedTCA – A changing business model for embedded system suppliers
By Ted Ridgway, RadiSys Corp.

24 RapidIO advances AdvancedTCA
By Eran Cohen Strod, Freescale Semiconductor

26 Changing times in PICMG-based platforms
By Justin Moll, Elma Electronic Inc.

27 AdvancedTCA: A new spin on supercomputing?
By Joe McDevitt, Diversified Technology, Inc.

80 Coping with higher power CompactPCI boards and systems
By Robert C. Sullivan, Hybricon

82 CompactPCI soaring high in the avionics industry
By John Gerngross, Condor

85 Is COTS dead?
By Stuart Morris-Hipkins, Hypertronics Corp.

154 Next-generation telecom services will fuel Advanced Switching Interconnect (ASI) adoption
By Wade Appelman, StarGen

product profiles

AdvancedTCA

Acccessories	30
Backplanes	31
Blades	34
Boards	36
Components	40
Connectors	42
Fabric switches	46
Front panel hardware	49
Load/test boards	50
Power management/ entry modules	52
Reference design	54
Servers	55
Shelf & mechanical	58
System management	63
Systems	64
Telecom interfaces	73
Thermal management	74

CompactPCI

Accessories	86
Analog I/O	88
Backplanes	89
Blades	91
Chassis	93
Connectors	94
DSPs & FPGAs	95
Enclosures	97
Front panel hardware	102
Hot swap boards	104
Mass storage	108
Media Processors	111
MIL/COTS	111
Motion control	113

CompactPCI (continued)

Network/communication interfaces	115
PCMCIA/CardBus/ PC Card	117
PICMG 2.16	117
PICMG 2.17	120
Power supplies	121
Processor boards	124
Prototyping	133
Ruggedized	136
Servers	140
Software-defined radio	141
Switches	142
Systems	144
Test instrumentation	153
Thermal management	153

Mezzanines & carrier boards

AMCs	163
PrPMCs	164
PMCs	165

PCI & PCI/COM/ SHB Express

Bridges	156
I/O boards	156
Network/communication interfaces	158
Systems on modules	160
PCI-ISA processors	161

CompactPCI and AdvancedTCA Systems is published monthly, but bi-monthly in February/March, June/July, and October/November by OpenSystems Publishing LLC., 30233 Jefferson Ave., St. Clair Shores, MI 48082.

Subscriptions are free, upon request in writing, to persons dealing with or considering CompactPCI technology. For others inside the US and Canada, subscriptions are $45/year. For 1st class delivery outside the US and Canada, subscriptions are $90/year (advance payment in US funds required). Periodicals postage is paid at Columbus, WI and an additional mailing office.

POSTMASTER: Send address changes to CompactPCI and AdvancedTCA Systems
13253 La Montana, Suite 207 • Fountain Hills, AZ 85268

It's a Smooth Landing in ATCA™

with AudioCodes on Board

With more than a decade of expertise in VoIP, AudioCodes has deployed its feature-rich products in networks of leading customers around the world. Offering a wide variety of field-proven products, AudioCodes complies with the rapidly evolving international market standards and requirements. When selecting the right building blocks for your ATCA™ system, you can rely on AudioCodes for interoperability, scalability, responsiveness and reliability.

Leveraging on our sound track record, AudioCodes introduces the **TP-12610 ATCA™ VoIP Media Gateway Board**. Designed for high density applications, the TP-12610 supports up to 4,000 LBR channels and an array of PSTN and networking interfaces, all on a single blade.

For more information call +1-408-577-0488 or email VoIPsolutions@audiocodes.com

RSC# 5 @www.compactpci-systems.com/rsc

AdvancedTCA®

AudioCodes
www.audiocodes.com

CompactPCI® and AdvancedTCA® Systems Resource Guide

An OpenSystems Publication

ADVERTISING/BUSINESS OFFICE

30233 Jefferson Avenue
St. Clair Shores, MI 48082
Tel: 586-415-6500
Fax: 586-415-4882

VP OF MARKETING & SALES
Patrick Hopper (586-415-6500)
phopper@opensystems-publishing.com

SENIOR ACCOUNT MANAGER
Dennis Doyle (586-415-6500)
ddoyle@opensystems-publishing.com

ACCOUNT MANAGER
Tom Varcie (586-415-6500)
tvarcie@opensystems-publishing.com

ACCOUNT MANAGER
Doug Cordier (586-415-6500)
dcordier@opensystems-publishing.com

MARKETING COORDINATOR
Andrea Stabile (586-415-6500)
astabile@opensystems-publishing.com

EUROPEAN REPRESENTATIVE
Stephan Baginski +41 (0) 62 758-3222
sbaginski@opensystems-publishing.com

PRINT/INTERNET MARKETING
Christine Long (586-415-6500)
clong@opensystems-publishing.com

FOR REPRINTS & INSERTS
Call 586-415-6500
sales@opensystems-publishing.com

BUSINESS MANAGER
Karen Layman

EDITORIAL/PRODUCTION OFFICE

13253 La Montana, Suite 207
Fountain Hills, AZ 85268
Tel: 480-967-5581
Fax: 480-837-6466

PUBLISHERS
John Black, Michael Hopper,
Wayne Kristoff

MANAGING EDITOR
Bonnie Crutcher
bcrutcher@opensystems-publishing.com

SENIOR EDITOR
Terri Thorson
tthorson@opensystems-publishing.com

TECHNOLOGY EDITOR
Curt Schwaderer
cschwaderer@opensystems-publishing.com

ASSOCIATE EDITOR
Anne Fisher
afisher@opensystems-publishing.com

EDITORIAL DIRECTOR
Joe Pavlat
jpavlat@opensystems-publishing.com

ASSISTANT EDITOR
Eli Shapiro
eshapiro@opensystems-publishing.com

SENIOR TECHNICAL EDITOR
Mark D. Barrera
mbarrera@opensystems-publishing.com

NEW PRODUCTS
www.compactpci-systems.com/products/

NEWS
www.compactpci-systems.com/news/

VICE PRESIDENT, EDITORIAL
Rosemary Kristoff
rkristoff@opensystems-publishing.com

ART DIRECTOR
Stephanie Sweet

SENIOR WEB DESIGNER
Konrad Witte

GRAPHIC SPECIALIST
David Diomede

CIRCULATION/OFFICE MANAGER
Phyllis Thompson
subscriptions@opensystems-publishing.com

On the cover:

Product photos courtesy Carlo Gavazzi Computing Solutions, Concurrent Technologies, Inc., Curtiss-Wright Controls Embedded Computing Real-Time Video and Graphics, Diversified Technology, Inc., Hybricon Corp., Innovative Integration, Momentum Computer, Inc., and Momentum Computer, Inc.

published by:
OpenSystems Publishing™

The Targa and PlexSys Series from DTI

Standards based architecture for converged communications is now a reality. DTI's Comm Systems are packet switched backplane (PSB) solutions supporting the PICMG® 2.9, 2.16, and 3.0 standards. These platform designs provide high availability, manageability, redundancy, scalability, and deliver high performance solutions for the enterprise and service provider markets. A variety of DTI processing options based on Intel® Architecture offer cost effective computing. (1.800.443.2667 / www.dtims.com)

Data Communication Systems

AdvancedTCA and CompactPCI based Platforms

Targa-5
5U System Platform packaged with Intel® Xeon™ Processor based Node Blade and Hub Switch Board
AdvancedTCA

Targa-14
14U System Platform packaged with 2 dual Intel® Xeon™ Processor based Node Blades and 2 Hub Switch Boards
AdvancedTCA

PlexSys-8
8U System Platform packaged with a complete line of DTI Processor Blades, Switch Cards, and RTMs
CompactPCI

Diversified Technology®
An Ergon Co.

OUT OF THE BOX SOLUTION

Call **1.800.443.2667** or visit our website at **www.dtims.com**

Introducing the 2nd annual *CompactPCI & AdvancedTCA Systems Resource Guide*

By Joe Pavlat, Editorial Director

Welcome to the second annual *CompactPCI & AdvancedTCA Systems Resource Guide*. These pages are packed with information about new and significant products compliant with popular and emerging open standards for embedded computing.

Every decade or so, our industry responds to market requirements with new technologies. CompactPCI is entering its second decade, and VME is enjoying its third decade of service. These parallel bus-based technologies are being eclipsed now by high-speed serial interconnects, often called switched fabrics, which provide higher performance and better scalability and reliability. This evolution began in 2001 with the release of the PICMG 2.16 Specification, which added a redundant, high-speed Ethernet switched fabric to CompactPCI. While the use of CompactPCI continues to spread to a wide range of industries and markets, 2.16 technology represents one of the highest areas of growth for CompactPCI. With 2.16, fabrics began to move into the mainstream. That trend continues today and will continue for the rest of the decade.

AdvancedTCA, the most sophisticated open industry standard for high performance computing, was released in December of 2002. It offers multi-terabit-per-second backplane bandwidth, high levels of redundancy and scalability, sophisticated system management, and an excellent thermal envelope. It is fabric agnostic and easily integrates general-purpose processors, network processors, and DSPs. Just two years after its introduction, AdvancedTCA is moving from the development lab to full deployment for a number of telecommunications providers, and design wins abound. Industry analysts forecast AdvancedTCA to be a $10 billion or larger business by the end of the decade.

Fabrics aren't just for big systems, however. Recognizing that the embedded computer business must utilize commercially available silicon, which is moving inexorably towards switched serial fabric architectures, developers are working hard to develop new open standards to address a wide range of applications both large and small.

PICMG recently released the Advanced Mezzanine Card (AMC) Specification, which defines a completely new high power, managed, fabric-based mezzanine. While initially developed for AdvancedTCA applications, AMC promises to be useful in a wide variety of other places. A new PICMG development group is working on MicroTCA, which allows a handful or more of AMC cards to plug directly into a backplane. MicroTCA can be used in a wide range of customer premise and even outdoor equipment, is low cost, and is forecast to push AMC volumes to very high levels.

Other fabric-based technologies have been developed by PICMG member companies and are being introduced for the first time in this resource guide. COM Express is a small form factor processor board standard utilizing PCI Express. It can perform as a standalone board or as a processor mezzanine plugged onto an OEM's application-specific I/O daughter card. The System Host Board (SHB) Express standard updates the old but still popular PCI-ISA Passive Backplane standard to utilize the high-speed PCI Express fabric.

The products in this guide represent the best our industry has to offer, and I hope that the new technologies presented here will lead to new thinking about how to solve application problems in newer and better ways.

SOMETIMES SIZE DOES MATTER

Intel®
Communications
Alliance
Affiliate Member
BRONZE

If your mission-critical applications require 24x7x365 uptime, high availability and scalability in a small footprint, then Alliance Systems' carrier grade AdvancedTCA® platform will simplify your life. Not for the weak of heart, this 14U system supports up to 14 blades, six fans and fully redundant power.

Alliance Systems' AdvancedTCA platforms provide the processing power to get your heart going and the reliability to let you sleep at night.

Get Your Modular Communications Platform Design Guide
www.alliancesystems.com/atca

As a single source provider of all your communications and computing needs, Alliance Systems offers end-to-end Intel based AdvancedTCA and CompactPCI® solutions.

Alliance Systems®

3501 E Plano Parkway | Plano, Texas 75074 | 972.633.3400 | 800.977.1010 | atca@alliancesystems.com

RSC# 9 @www.compactpci-systems.com/rsc

Advancing the proposition

By Ian Colville, Product Manager

Mention AdvancedTCA or any of the emerging switched interconnection fabrics to the average group of Computer Telephony (CT) developers and you will get a mixed reaction. It would no doubt range from equanimity to apprehension, as the topic is not likely to have featured on their radar screen – until recently.

When developers of high-performance CT solutions become aware of new technologies, there is a desire for knowledge and a flurry of questions. Some early adopters may clamour to catch the first train; others will remain sceptical about the benefits, while still more will realize that if the service is successful, there will be a timetable of trains to catch.

As a leading provider of CT technology for application developers and systems integrators, Aculab has a role to play in assisting in its customers' education. This article seeks to do just that; looking out from our position of providing a complete range of hardware and software media processing resources and digital network access components – in both PSTN and IP environments – to give a view of developments in the industry.

First, let's be clear; there is no single correct answer to the question of selecting a suitable form factor or switching fabric for CT-based solutions. From the achievement of critical mass in CT by the mid '90s, ISA-based solutions were deemed adequate on a range of metrics for enterprise and, yes, some telco solutions too. The overtaking development of PCI has, in its turn, been used for a wide range of business critical services. These truths may be moderated by acceptance of the fact there were few alternatives, but systems were sold and deployed to good effect for all concerned.

Recent experience by Aculab customers suggests there is a PCI paradigm that is more than adequate in a telco network environment. We may well ask, "what is the fundamental difference between replacing a 1U PCI server (running "n" E1/T1 trunks) and hot-swapping an advanced mezzanine module with a similar capacity in an AdvancedTCA chassis?" Now, with the advent of PCI Express, there is certainly a future for PCI in highly featured CT application servers.

CompactPCI systems have been successful, given their attained maturity, but connector limitations, power performance, and slot capacity among other considerations, led to the need for a new form factor – AdvancedTCA. The lack of availability of native hot-swap support among some Operating System (OS) choices is another consideration. Nevertheless, this format delivers in a number of ways and will remain an attractive option for many. In addition, CompactTCA will ensure this form factor size lives on.

A perceived difficulty for CT developers when considering AdvancedTCA lies in the large number of competing switch fabrics. With PCI and CompactPCI, it was easy. There was little choice; you had a Universal PCI bus and either H.100 or H.110 for your TDM traffic. Now, with the likes of InfiniBand, StarFabric, Hyper Transport, Serial RapidIO, and of course, the ubiquitous Ethernet, how can a choice be confidently made? What criteria should be applied?

The key criteria for the majority of CT developers can be summed up in the question, "what happens to my application?" Application portability is a prime concern for companies who have invested many development hours in their prod-

Artesyn Technologies equals

infinite customer-centric advancements in telecom technology and quality

Innovation, Commitment, Integrity, and Economic Value... These are qualities you'll often find at leading companies in today's global economy. They're also qualities you'll find at Artesyn Technologies, a worldwide leader in providing continuous advancements in technology and quality for wireless, switching, signaling, optical networking, and other telecom infrastructure applications. At Artesyn, we are at the forefront of change in creating the boards and software that help make worldwide Teledatacom™ networks and real-time communication systems for Telecom OEMs possible. We continuously research, test, and develop new technologies to provide our customers with solutions that are cost-effective, that strengthen their competitive positions, and lower their total cost of ownership. Want to glimpse the future of Teledatacom™ from the vantage point of a leader? Visit our Website at www.artesyncp.com or call us at **1-800-356-9602**.

ARTESYN® TECHNOLOGIES

Artesyn Communication Products

8310 Excelsior Drive
Madison, WI 53717-1935 USA
Toll Free: 1-800-356-9602
Voice: 1-608-831-5500
FAX: 1-608-831-4249
Email: info@artesyncp.com

CTIA
March 14-16, 2005
New Orleans
Booth #673

www.artesyncp.com

RSC# 11 @www.compactpci-systems.com/rsc

Advanced TCA® CompactPCI®

WWW.CONEC.COM

ADVANCEDTCA CONNECTORS

This newly developed architecture and system layout allows manufacturers of telecom equipment a new standard for designing systems. ATCA stands for ***Advanced Telecommunications Computing Architecture***.

The basic structure is utilizing a modular concept. Application of this new structured approach allows various module designs that are compatible in layout and mechanical installation.

The PICMG Group created the PICMG 3.0 Standard. This Standard specifies the mechanical details with regards to input/output, voltage, current and connection parameters. Control, backplane layout and system architecture are part of the standard.

CONEC developed unique socket press fit contacts for this series of connectors. The socket contact utilizes high reliability screw machine components combined with stamped and formed press fit zone.

CONEC has developed a new family of connector products that adhere to this new Standard. Products such as plugs and sockets, high power and signal contacts, have been developed.

This new connector series ia available with press fit and through hole contact types.

PRODUCT FEATURES:

- Rugged construction
- Polarizing system
- Premating contacts
- Press fit contacts
- Special variations on request
- Screwdown hardware
- Selective loading of contact positions

COMPACTPCI CONNECTORS

Compact PCI, this new bus architecture has been developed and adapted as the new standard by many computer system manufacturers. A group of companies formed the PICMG Consortium. PCI as it is known today, stands for ***Peripheral Components Interconnect***.

Telecom, datacom, computer, medical, instrumentation and industrial control manufacturers are implementing the CompactPCI Bus structure. This standardization brings many advantages to the designer of electronic systems.

CONEC is a member of the PICMG Group and has developed the 47 positions power connector types, adhering to the specifications outlined in PICMG 2.11 R1.0. Plug and socket types with various connection and contact styles have been developed. Press fit type, through hole type and high power contacts are available. Connectors can be selectively loaded to meet specific layout configurations.

PRODUCT FEATURES:

- Premating contacts in selective positions
- Mounting screws for PCB are available
- High reliability and longevity
- Polarizing, coding, system
- Selective loading, mixed layout contact configurations

AMERICAN CONEC®

PCI INDUSTRIAL COMPUTERS PICMG

uct. Therefore, compatibility with the PCI architecture is likely to be a significant requirement in ensuring that the card (board) vendor maintains Application Programming Interface (API) compatibility across their product range. Attention to these factors will ensure that developers can migrate their solutions – a matter of evolution, not revolution.

IP support is a consideration, whether the use of a fabric requires additional software, or whether IP is intrinsic. The optimum data transfer rate and inherent latency of switch fabric choices will impact their selection. The need to scale a solution beyond a single chassis may be a factor, and making a choice between Ethernet and StarFabric at least for PCI or CompactPCI platforms seem logical.

A prime concern for telco/carrier grade systems will be 5-nines availability; a mandatory requirement indeed in any RFQ. However, with rack space at a premium, any cost versus availability performance comparisons between PCI, CompactPCI, and AdvancedTCA will not necessarily produce a clear-cut result. As often as not, there will be a balance to be struck; effort versus performance and cost versus benefits. Other factors may simply be time and opportunity based such as the commercial availability of silicon or switch fabric hardware.

Timing is often the key for CT developers; if an opportunity presents itself at the right time, it may be a good investment to begin a new project using new technology. On the other hand, if time is of the essence, delivering on an existing platform means rapid time to money.

The typical development life cycle in the CT world is between 9 and 18 months for a new offering, from project inception to product launch. If the availability of new technology coincides with the launch of a project, then the early adopters can be counted on to get onboard. Others will remain skeptical about the need to get involved until much later in the technology life cycle.

Notwithstanding either point, the benefits of deploying emerging technology will have to be clearly visible. There are few evangelists in the competitive world of CT development.

The key message for the CT developer community is that there is no overriding need to board the first train. There will be a timetable of trains to catch and catching the right one to the right place is better than catching the first one.

For more information about Aculab, visit www.aculab.com.

All registered names and trademarks are the property of their respective owners.

AdvancedTCA: The merchant compute industry comes of age

By Rob Hilkes, Director of Product Line Management

AdvancedTCA is good for everyone. Large manufacturers of communications and computing infrastructure equipment can now focus on adding value where it provides the most benefit to customers rather than on the nuts and bolts, literally, of chassis design. Small, innovative companies can target new products to a standard physical backplane and system management methodology, enabling broader appeal than was ever possible with traditional proprietary architectures. Component suppliers can benefit from a large customer base with consolidated, consistent requirements. Most importantly, our mutual customers – users of AdvancedTCA equipment – will benefit from better availability, a larger selection of products, and true interoperability.

To achieve the level of functionality, performance, and uptime that AdvancedTCA systems aspire to deliver requires some fundamental changes in board-level power distribution and management. Power designers will need to become familiar with traditional 5-nines telecom architectures, the foundation of AdvancedTCA power distribution and management.

There are several aspects of AdvancedTCA power architectures that are significant departures from CompactPCI.

Up to eight diodes and eight fuses

Advanced TCA power pins are fully redundant (–48 V and Battery Return), and four different pin lengths exist to facilitate simple pre-charging and management power initialization. This level of redundancy provides potentially significant availability improvements, but also a number of new points of failure. Proper monitoring of fuses and diodes, while not expressly required by the AdvancedTCA specification, will be a point of product differentiation. Devices such as the Potentia PS-1006-48V Inrush Controller with fuse monitoring can help to report hidden fuse faults to system management, reducing the risk of hidden failures causing downtime when the feeds swap over.

Dynamic measurement of voltage and current

Again, although AdvancedTCA only stipulates absolute power limits for a board, there is significant customer benefit in being able to monitor actual power parameters. System management can use this information in its overall power budget during start-up negotiations with hot-plugged FRUs. In addition, knowledge of card level voltage and current can be used to alert system management to trends, possibly even preventing or at least containing board level failures. The best place to measure board-level voltage and current is on the ORed primary feed before any power conversion. Unfortunately, that point is on the high voltage side of the safety isolation barrier. Historically, transmission of primary side analog data, digitized, to secondary side system management has been difficult and costly. Devices such as the PS-1006 from Potentia are now emerging, which provide this level of telemetry without violating telecom safety requirements.

Negotiated power

AdvancedTCA requires every circuit board to consume no more than 10 W until shelf management has granted it permission to consume its rated power. This simple requirement means that power sequencing must now interact with software. The device that controls DC-DC converter sequencing/tracking and other power management tasks must now be intelligent enough to interact with system management devices. The simplest method of achieving this requirement is to have the power manager IC communicate over an I^2C link with the board's Intelligent Platform Management Controller. The PS-2406 Power Subsystem Controller provides all the requisite power management functions, including the ability to sequence power on/off under the control, via I^2C, of an IMPC device. In addition, it provides register access via I^2C to primary side parameters monitored by the PS-1006.

In the future, intelligent hot-pluggable mezzanine cards will deploy a similar negotiation method wherein 12 V and 3.3 V power will be switched from the 48 V main board up to the mezzanine card under control of the onboard IPMC negotiating with shelf level management.

Benefits of AdvancedTCA

AdvancedTCA power architectures will bring significant availability benefits to end users. Additionally, by distributing –48 V power through backplane components, primary side currents are more manageable, even on high-powered circuit boards. An experienced component supplier can help to develop the right power architecture and provide components that minimize design headaches, enabling thorough and robust power management that meets or exceeds AdvancedTCA requirements.

For more information, visit www.potentiasemi.com.

3U CompactPCI Board based on Intel® Pentium® M Processor with 855GME Chipset

The cPCI-3840 is a 3U CompactPCI 1.6GHz Pentium® M processor board. Combined with embedded chipsets 855GME and 6300ESB, the cPCI-3840 offers up to 2GB DDR 333 memory with XVGA and flat panel graphics, dual Gigabit Ethernet ports, and several I/O features. It delivers higher computing power but at low-power consumption. The cPCI-3840 is specially designed for industrial automation and control system applications.

For more info, go to:
www.adlinktech.com/products

Full-size Prescott ePCI-X SBC with AGP8X VGA/GbE/S-ATA/USB 2.0

The NuPRO-850 features high computing capability and supports 800/533MHz FSB hyper-threading Pentium® 4. This product incorporates a PCI-X bus for 64-bit/66MHz performance. It has a high communication bandwidth to support SGP8X/4X high performance VGA display and Serial ATA for high speed storage. The NuPRO-850 also supports USB 2.0 and generic features such as COM, KB, mouse and hardware monitoring.

For more info, go to:
www.adlinktech.com/products

2-CH 65MS/s 14-Bit Digitizer with SDRAM

ADLINK's PXI-9820 is a 2-CH 65 MS/s, high-resolution PXI digitizer with 512MB SODIMM SDRAM memory. It features flexible input configurations including programmable input ranges and user selectable input impedance. With lots of on-board acquisition memory, the PXI-9820 can record waveforms for a long period of time. The PXI-9820 is ideal for high-speed waveform capturing, software radio applications, and signal digitizing applications which require ample memory.

For more info, go to:
www.adlinktech.com/products

Half-Size VIA Eden ESP SBC with VGA/LAN/USB/Four S-ATA

The NuPRO-795 is a VIA Eden PCI Half-Sized CPU Board with 512MB PC133 SODIMM SDRAM memory and a built-in PLE-133 VGA with S-ATA. It features a VIA PLE133T chipset, 2X AGP VGA USB 1.1 connectivity and S-ATA 150 for storage. It is ideal for the automation controllers who need a half-sized CPU card and a single board computer.

For more info, go to:
www.adlinktech.com/products

Come visit ADLINK at ESC San Francisco at Booth 2238

Computing Flexibility from 600MHz to 1.8GHz Intel® Pentium® M Blade

The cPCI-6840's extensive features include:

- Long Life Embedded Intel® 855GME Chipset
- PICMG 2.16 Packet Switching Backplane Compliant
- 64-Bit/66MHz Universal PCI-X Bus
- Low Voltage Intel® Pentium® M Processor: 1.6GHz Max.
- Full Featured I/O: Dual PMC, Gigabit LAN, SATA, USB 2.0, DVI, Video, LVDS Panel & Optional SCSI

Contact us toll-free at 1-866-4-ADLINK or Email info@adlinktech.com

Intel® Communications Alliance Associate Member

PICMG

PXI Systems Alliance

ADLINK TECHNOLOGY INC.

www.adlinktech.com

Impact technologies for 2005

SBE®

By Dan Grey, President and CEO

Most companies would agree that the 2000 high-tech recession has seen somewhat of a recovery during the past year as revenues and employment hiring slowly escalate. The survivors of the downturn have either barely scraped by, or used cash reserves and acquisitions to produce innovative solutions, positioning themselves for increased market share during the recovery. Wall Street and investors are obviously feeling more comfortable with the recovery, as evidenced by recent IPOs and the growing number of new VC startups year over year.

As the economy becomes healthy, the technology market grows more competitive, and companies are under pressure to take aggressive actions to offer contemporary solutions for their customers and to differentiate themselves for new business. Such actions on legacy/commodity products include price reductions, redesigns to multiply feature sets, or form-factor size reductions. Other actions on a higher level include corporate acquisitions, to either fill the void in product line or simply "buy" competitors and their customers.

Therefore, as our secure footing on an otherwise changing landscape seems challenging enough, several new technologies indicate trends for the next surge of business activity. These technologies, in my opinion, affect embedded and enterprise computing markets and will jolt vertical applications everywhere.

Multi-core microprocessors and motherboards replace high-speed, single-core MPUs

The single-core MPU power usage has resulted in temperature meltdowns, and trends indicate that usage of two, or more, cores lowers clock speeds, produces microprocessors that perform much better, and avoids the overheating dilemma. The impact brings much of the system level overhead and I/O management onto the CPU board, making multiprocessing, encryption acceleration, and TCP/IP management easier.

3G mobile phone features, in Europe and Asia, leave American technology in the dust

We, the consumers, are a demanding bunch and will drive ILECs and service providers to support high-speed video downloads, games, and data access. The impact sends Telecom Equipment Providers (TEPs) in the USA scrambling to roll out next generation systems based on proprietary architectures, CompactPCI, or AdvancedTCA.

VoIP is driving a revolution

Taking voice communications from location-based circuit switching to "virtual-roaming" communications offers cheaper calls, adds features like integration with e-mail, and reduces network management overhead and changes. The impact – developers and

suppliers of IP solutions are on the front end of five to seven years of growth for telecom infrastructure.

IP storage will replace traditional mass storage

The iSCSI protocol, which supported more than 1 Gb and 10 Gb LANs to the Internet, now provides fast, reliable, and secure data transport. TCP/IP Offload Engines (TOEs) are available to perform all of the TCP/IP processing and provide multiple ports for both multi-path migration and failover (ERL2). The impact – remote access to secure multi-terabyte storage is possible via laptops, PDAs, or cell phones, and offers significant cost savings over Fibre Channel.

Linux on demand

A recent IDC report indicates greater popularity than previously thought. Revenue for desktops, servers, and packaged software running on Linux will exceed a stunning $38 billion by 2008. Embedded products are increasingly relying on standard Linux, or real-time Linux such as TimeSys, to control phones, PDAs, network appliances, automobiles, and home entertainment gateways. The impact – grass roots Linux developers supporting innovative solutions will enjoy enormous growth opportunities.

"Impact technologies"

The year 2005 will be remembered as a year of transformation. Several "impact" technologies will affect the way we live our lives, do our jobs, and challenge our brains. SBE, focused on OEM networking I/O solutions, is vested in many of these "impact" technologies, including TOE, iSCSI, VoIP, and encryption. We're ready and excited about the ubiquitous evolution in communications and the growth following innovation.

For more information, visit www.sbei.net *or call 800-214-4723.*

ROUGH & READY

Rugged Systems for Harsh Environments

MACE

is a high performance one-piece rugged PCI based computer designed specifically for airborne & military tactical field applications. Each system can contain multiple MIL-STD-1553 and/or ARINC-429 channels

DRAGON

is a ruggedized enclosure system for PC/104 cards. Each system allows for multiple MIL-STD-1553 and/or ARINC-429 channels.

LANC

is a lightweight, cost effective solution for portable collection of MIL-STD-1553 or ARINC-429 data. It is handheld, replacing heavy and cumbersome test equipment.

CAMELOT

is a ruggedized notebook with built-in MIL-STD-1553 and/or ARINC-429 interface cards for data bus analysis & recording.

EXCALIBUR SYSTEMS

mil-1553.com

Systems • Avionic Cards • Data Recorders • Software
Couplers • Connectors • Cables • Terminators

311 Meacham Ave. • Elmont N.Y. 11003 · U.S.A. • Tel: 1-800-MIL-1553

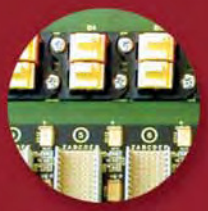
RSC# 17 @www.compactpci-systems.com/rsc

See Our Design Expertise For Yourself.

At Elma Bustronic, the quality of our design expertise is reflected in every backplane we produce. As switched serial interconnects place performance demands on backplanes, you need a design team that's up to the challenge. We have extensive experience in high-speed differential pair routing for StarFabric, Gigabit Ethernet, RapidIO, PCI Express, and other technologies with speeds from 3.125 to 6.250 Gbps, and beyond. Our signal integrity analysis and simulation tools ensure that we supply you with an efficient cost-effective design solution that works superbly the first time, every time. And we continue to expand our technical resources with new high-speed measurement technology, interconnect model extraction, and software to support measurement-driven design.

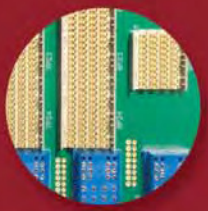
Contact Elma Bustronic today to see how our design expertise can deliver the high-speed backplane solution you're looking for.

VME Multidrop Bus



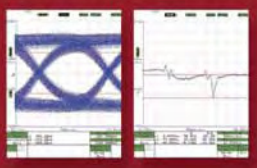
Optical/cPCI Bus

Switched Serial Fabrics



Advanced Serial Switching

Simulation/Backplane Characterization



ELMA BUSTRONIC

Tel: 510.490.7388 www.elmabustronic.com info@elmabustronic.com

ELMA
Your Solution Partner

Open standards enable system-level application development

Computer Systems, Inc. MERCURY

By Mark Skalabrin, Vice President & General Manager, OEM Solutions Group

Market, business, and technical factors are all forcing a significant change in how telecom OEMs are developing and delivering solutions to market. First, time-to-market competitive pressures are driving OEMs to accelerate design decisions as a way to reduce product development cycles. In addition, the recent telecom downturn reduced OEM design resources to such an extent that they no longer have the people to support lengthy evaluations of new technologies. Unfortunately, the new technologies being introduced today require extensive application evaluations before making a design decision. Application requirements are demanding orders of magnitude more performance at the system level, and piecemeal testing of system components is grossly inadequate.

In the past, telecom OEMs followed a two-step process for evaluating the suitability of new technologies. First, they would acquire next-generation technologies from the various suppliers, install them in the lab, and conduct a performance evaluation in the context of a target application. Based on the results, OEMs would narrow the selection to a handful of candidate technologies and move on to full-scale prototyping in a next-generation base station, controller, or gateway.

Only after this level of testing would an OEM commit to the new technology and start developing a production prototype. With a production prototype in hand, field trials could begin. Finally, after a number of months or possibly years, they would be ready to deploy the technology.

Today, OEMs can afford neither the time nor the money involved in this long, drawn-out technology evaluation process. They are looking for sources of external innovation and are shifting some of the evaluation responsibility to their technology providers. The trend is that, before OEMs will consider evaluating a new technology, it must be made available in a system or platform that immediately allows extensive application-level testing. Ideally, such a test and evaluation platform will not only support testing, but also facilitate solution designs that meet OEM business and technical requirements.

Fortunately, open standards are emerging like the Advanced Telecom Computing Architecture (AdvancedTCA®) with Gigabit Ethernet, PCI Express™ and

Kontron makes telecom simple

Period.

Data Center / Access / Edge / Core / Transport

Design and Deploy with Kontron ATCA/AMC solutions

INTEGRATED & APPLICATION-READY / CUSTOMIZABLE / TELECOM CARRIER GRADE / FASTER FIRST-TO-MARKET / SIZABLE MATERIAL & DEVELOPMENT SAVINGS / STRATEGIC PARTNERS

- Count on Kontron ATCA and AMC integrated solutions to get you from designed to deployed for all your **next generation network** applications in both the wired and wireless world.

Kontron simply takes the worry – and the expense – out of building complex telecom platforms, all based on years of expertise in driving and adopting leading-edge, open standards HA technology.

Pre-integrated and application ready right out-of-the-box, Kontron ATCA/AMC solutions also feature best-in-class carrier-grade software such as MontaVista® Linux® Carrier Grade Edition (CGE), and hot-standby Solid CarrierGrade™ data manager from Solid Information Technology.

The result is a simple and effective Go-To-Market formula for all your successful application deployments – be it media, access, telephony, data center and storage, and all points in between.

Go Open / Go Kontron / Ask for an Eval today /

- Build your Next Generation Network applications today with AdvancedTCA and AdvancedMC solutions.
- Discover what's new: AT8001 processor board with dual AMC support, and the AM4001 AMC module with Intel® Pentium M processing and PCI-Express support.

www.kontron.com/ATCA

solid.

Intel® Communications Alliance Associate Member SILVER

montavista

AdvancedTCA™

kontron

888-526-ATCA www.kontron.com

EMEA: +49 81-65 77 0 ASIA: +886 2 2910 3532

RapidIO®, that will support rapid deployment in a variety of application environments. While these standards are necessary, in some cases they are not sufficient. There is an array of application-specific configurations not being met. There are still system management issues, as well as integration and interoperability problems, that must be resolved to ultimately meet customers' requirements.

AdvancedTCA is a step in that direction, but more work needs to be done. While AdvancedTCA provides a strong foundation for standards-based solutions, it is not, by itself, a complete answer. For example, AdvancedTCA supports so many implementation options that interoperability between AdvancedTCA-based applications cannot be guaranteed. A great deal of good work is addressing these issues at the board level with interoperability workshops. We must look at the individual applications on a case-by-case basis. For example, layers above AdvancedTCA-like system management and RapidFabric™, are being defined and standardized to support specific application implementations.

Mercury Computer Systems is evaluating a number of application requirements in the context of these open standards. Working collaboratively with several strategic partners, we have developed an evaluation platform for the telecom market segment. The platform, called Ensemble™, is built on two forward-looking industry standards – the serial RapidIO switch fabric and AdvancedTCA. With an open standards based system approach, OEMs can gain valuable application-specific insights into RapidIO and AdvancedTCA capabilities. In addition, the standard-compliant designs built and tested on this platform are in step with the OEM business drivers of improved time to market, and reduce integration costs while minimizing the implementation and design risks.

Both OEMs and technology suppliers are finding Ensemble to be a useful tool. Technology suppliers with board-level products can integrate them into Ensemble so they can participate in system-level testing. OEMs can use Ensemble to qualify and characterize system performance at the application level before making design commitments.

The year 2005 has great potential to be an encouraging year for open standards adoption among OEMs. Never before in my computing career have I seen such a strong support for companies to work collaboratively in "coopetition" (cooperation and competition) spirit to resolve the issues discussed previously. Mercury welcomes and continues to enjoy cooperation with a broad array of industry partners to work in applying Ensemble to solving these issues in an expanding number of design efforts.

For more information, visit www.mc.com.

AdvancedTCA – A changing business model for embedded system suppliers

By Ted Ridgway, Vice President, Service Provider and Enterprise Equipment Segments

In the late '90s, AdvancedTCA was a vision that several advanced thinkers within the telecom industry shared. Today, the standard has matured and despite the telecom slump, has emerged as a stable architecture supported by a comprehensive ecosystem of technology companies providing AdvancedTCA-compliant products.

AdvancedTCA is the next-generation standard for communications infrastructure equipment such as Radio Network Controllers (RNC), Serving GPRS Support Node (SGSN), Media Gateways (MG), and carrier-grade telecom servers among others. The standard defines a common platform architecture enabling the deployment of flexible solutions that capitalize on reusable designs and commercially available components. These reusable elements and common architectures lead to significant savings in deployment time and overall investment by those developing next-generation telecom products.

As AdvancedTCA has gained momentum and acceptance, the industry is realizing the benefits of better interoperability, scalability, and serviceability. Widely available COTS AdvancedTCA-based solutions will enable Telecom Equipment Manufacturers (TEMs) to bring service provider solutions to market faster. As a result, service providers can deploy next-generation services, accelerate revenue generation, and improve new service business cases. These benefits will accelerate the TEMs evaluation of AdvancedTCA-compliant products and use of these components in their systems.

While the proliferation of AdvancedTCA-based products offers companies abundance of choice, TEMs face new challenges in integrating these different components from different vendors to create complete systems. Even in a system using AdvancedTCA-compliant components, the system integration process requires significant time and resources that may be in short supply within many TEMs. To optimize research and development budgets and introduce products as quickly as possible, TEMs need to rely on vendors to manage the entire product life cycle. This responsibility includes integration and validation, research and development, supply chain, and EOL functions. Transferring these critical business processes to trusted vendors enables TEMs to focus their valuable resources on what's

important – developing features and capabilities that differentiate their products.

Some TEMs may view such comprehensive life cycle management as risky. However, companies face the challenge to stay competitive – on design interval, technology breadth, price, support, and other factors if they try to manage the entire process. By working with vendors who provide a complete, integrated, life cycle managed solution, TEMs can realize significant benefits and can improve their competitive positioning.

For this delivery model to work, suppliers must become expert system architects, provide unequaled service, and manage life cycle and supply chain management functions with a keen eye on customer ROI. The business model is changing, and to be competitive these organizations must be willing to move up the value chain with conviction, dedication, confidence, and focus.

Additionally, embedded system vendors must continue to advance technology and provide solutions that deliver improved economies of scale, increased application flexibility, and velocity. The combination will lead to a lower total cost of ownership for our customers and their customers.

This new model will work for TEMs who understand the Total Cost of Ownership (TCO) model and realize the costs of creating new, embedded AdvancedTCA platforms for distribution to multiple platform users. Redirection of TEM research and development budgets can aim to build killer applications, while embedded platform providers deliver solutions that are more economical.

RadiSys is embracing this evolving business model by currently managing entire life cycle processes for many customers, and will offer the same support for its AdvancedTCA products. This, combined with the company's unequaled system expertise, enables RadiSys to deliver integrated platforms with standards-based products to help speed deployment of next-generation services. The company's Promentum™ family of AdvancedTCA solutions makes extensive use of common architectural and component designs, and integrates carrier grade operating systems and middleware, which can reduce overall development costs and enhance application portability. Figure 1 shows the RadiSys Promentum SYS-6000, an application-ready, highly configurable, integrated Linux blade server for control and services plane applications.

For more information, visit www.radisys.com.

All registered names and trademarks are the property of their respective owners.

Figure 1

RapidIO advances AdvancedTCA

By Eran Cohen Strod, RapidIO Marketing Manager

Advanced TCA promises to commoditize certain aspects of next-generation telecommunications and compute systems. However, the commodity AdvancedTCA backplane architecture supports several different data fabric protocols. In fact, some contend that the proliferation of PICMG 3.X dot standards has created quite a bit of confusion and industry disarray. The selection of a backplane fabric architecture is one of the key decisions that can make or break a next-generation system architecture. This is one of those situations in which a wrong decision can lead a product organization awry.

The system designer must pick a proven architecture that is already being widely deployed in mission critical applications. Slide-ware architectures need not apply. Key vendors in embedded computing have to back the technology and, finally, the architecture has to be elegant, low-cost, feature-rich, and scalable to thousands of devices. After all, the 8U AdvancedTCA form factor packs plenty of room for processors and other types of endpoints. Which fabric fits the bill?

Surprise, it's RapidIO!

In case you haven't been paying attention, there are now 30+ companies either in production currently or moving to launch products that support the RapidIO architecture, including:

- 4 different processor vendors
- 7 board vendors
- 5 software vendors
- 4 standalone switches
- 10 vendors of IP/FPGAs/structured ASICs

This groundswell is unparalleled by any other packet-switched serial interconnect primarily focused on embedded computing. Freescale Semiconductor is leading the ecosystem having announced an additional four processors with integrated serial RapidIO along with disclosing plans to market a RapidIO switch.

Mercury Computer Systems and Tundra Semiconductor demonstrated the Ensemble evaluation system last April during the keynote address at Freescale's Smart Networks Developers Forum in Dallas, supporting RapidIO over an AdvancedTCA backplane. The Ensemble system leverages several key RapidIO-enabled solutions that are currently available.

These RapidIO-enabled solutions include:

- PowerQUICCIII processors from Freescale
- Switches from Tundra
- FPGAs from Xilinx
- XMC cards from GDA technologies
- ENEA OSE operating system

One of the unique and innovative tools available for Serial RapidIO-based fabric systems is the GUI-based fabric management tool RapidFET, currently offered by Fabric Embedded Tools. RapidFET allows the designer to instantly see the topology of every node in the fabric. From there, the designer can discover, enumerate, visualize, and control the RapidIO network. RapidIO supports a special in-band discovery and control mechanism called maintenance packets. RapidFET is built on this feature.

RapidIO over AdvancedTCA is formally termed PICMG 3.5. Lucent Technologies chairs this effort with support from Agere Systems, GNP Computers, IDT, Mercury Computer Systems, PMC Sierra, SBS Technologies, and Tundra Semiconductor. The architects of the RapidIO specification cleverly adopted the same physical layer as 10 GbE (XAUI) as the RapidIO serial physical layer. This configuration insures RapidIO's compatibility, from an electrical point of view, with numerous open-standard platform architectures, including AdvancedTCA. In general, PICMG 3.5 dictates how to map serial RapidIO's 1x link, comprising two differential pairs, to the AdvancedTCA backplane. It also supports options for single-lane mappings, including individual lane mappings for one, two, three, and four lanes, as well as an aggregated four-lane port for 10 Gbps. Note that on a per-lane basis, RapidIO is 25 percent faster than PCI-Express, which is only 2 Gbps after encoding. In addition, its technology can impose 55 percent less header overhead. RapidIO easily supports tree, daisy-chain, dual-star, mesh, and other switched topologies that are likely to be widely adopted on AdvancedTCA line cards and backplane fabrics.

Aside from the pin assignments, PICMG 3.5 builds upon the feature definitions in PICMG 3.0 for standard AdvancedTCA shelf management. For example, it defines electronic keying, enabling the management plane to verify compatibility between line cards before enabling the fabric interface.

Freescale is chairing the AMC.4 standard to allow the creation of RapidIO AMC cards. This standard will enable vendors to construct systems based natively on the RapidIO data fabric. The RapidIO physical layer supports multiple priorities, allowing an application to segregate implementation-specific traffic types on different virtual channels. Types of traffic include:

- Robust/lossless versus continuous traffic
- Unicast and multicast
- Voice/video/data traffic
- Control and dataplane traffic

All virtual channels are routed over the AdvancedTCA data fabric. The Freescale MPC8641 PowerPC™ processor can discover and initialize the fabric in-band via RapidIO, and can use its dual e600 cores to serve as a high-performance exception path processor.

While the AdvancedTCA architecture supports many data fabric choices, RapidIO is the only true, open-standard ISO certified fabric that is shipping today. RapidIO is now poised to assume a leadership role in the three Cs of embedded computing: chip-to-chip, card-to-card, and chassis-to-chassis.

PICMG 3.5, RapidIO AdvancedTCA, and AMC.4 RapidIO over the AdvancedTCA Mezzanine Card standard are on track to begin balloting in early Q1 2005 with ratification to subsequently follow.

For more information, visit www.freescale.com.

Changing times in PICMG-based platforms

By Justin Moll, Director of Marketing Elma Bustronic & Manager of PR, Elma Electronic Inc.

Along with the many new PICMG-based platform technologies that will be introduced in the coming year, there are fundamental changes afoot in backplane/chassis design. One key area is simulation. Signal speeds, processing power, and space constraints among other things are putting higher demands on the backplane/chassis manufacturer. Simply put, maintaining strong signal integrity across the backplane and thermal management in the chassis are major challenges. Another area of importance is shelf management on the chassis/frame level.

To address the signal issue, the Elma Bustronic backplane operation has further expanded its Signal Integrity Lab. In the last year, we've upgraded our equipment and resources for advanced simulation and characterization models that can more accurately represent the exact behavior of the interconnect path. Elma Bustronic has also developed a probe card for AdvancedTCA to perform measurements on its backplanes.

On the thermal management and EMI/RFI side, advanced simulation features can help identify potential hot spots in an enclosure on the CompactPCI or AdvancedTCA chassis. A design engineer can then determine the best way to eliminate the hot areas by optimizing features such as location of fans, baffles, air intake, and exhaust during the design phase. Newly developed software provides the ability to perform multiple *what if* scenarios to arrive at the ideal design. It allows designers to build conceptual 2D/3D models of an enclosure and run preliminary simulations. With animation capabilities, it can illustrate the airflow through an enclosure and scan the heat distribution and airflow on a slot-by-slot basis.

Elma sees globalization as a growing key success factor in the system platform business. Additionally, in the marketplace, industry analysts expect that AdvancedTCA will see more rapid growth and acceptance in 2005. Elma is well prepared for this challenge, providing a wide range of AdvancedTCA products in the industry. We have innovative solutions in a large range of configurations and sizes.

We expect 2005 to be both a challenging and rewarding year for developers of PICMG-based systems. To be prepared, backplane/chassis solution providers need to be ready to tackle the potential signal integrity, thermal, and monitoring/system management issues that will become more common. The industry will need to choose vendors that can arise to these challenges and offer a full complement of services.

For more information, visit www.elmabustronic.com *and* www.elma.com.

Diversified Technology®
An Ergon Co.

AdvancedTCA: A new spin on supercomputing?

By Joe McDevitt, VP of Technical Development

The days of monolithic-type mainframe computer installations are over, and massive parallel clustering of individual servers has become the trend in creating supercomputers. This clustering trend has relegated computer systems, such as the proprietary monolithic installations, to slightly more than interesting trivia questions. Today, we are potentially on the verge of another trend in supercomputing through a possible convergence of an unintended *de-facto* standardized hardware solution for clustering using the PICMG® Advanced Telecommunication Computer Architecture (AdvancedTCA®) standard. AdvancedTCA is tailored to meet the needs of communication network infrastructure by defining a set of specifications covering mechanical, shelf management, power distribution, data transport, and regulatory requirements for "carrier grade" deployments. In the telecommunication arena, some applications demand high performance computing, such as database look-ups, billing, and other applications. These telco applications drive the need for dual CPU designs on server class chipsets. While these telco applications fall very short of requiring massive parallel clustering, the resultant standardized processing products they drive certainly are not prohibited from being used for that purpose.

The website at www.top500.org maintains a list of the top 500 released supercomputers in the world. From a purely *techy* point of view, the site is extremely fun to browse and surf. IBM's BlueGene/L at 70.72 teraflops currently leads the list of supercomputers. There are many other interesting trends that can be found throughout the site as well. One of these is the increase of Gigabit Ethernet usage, which may soon be the most widely used interconnect in supercomputing. The site also points out that about 60 percent of the clusters listed in the top 500 use x86 processors. As AdvancedTCA moves toward full-scale production and telco deployment, both x86 and Ethernet are widely available in the solutions designed around this form factor.

Some could argue that the cost of NEBS-compliant hardware will price AdvancedTCA out of the supercomputing market; but NEBS-compliant testing is largely a burden of the end telco application and comes virtually free on processing node and switch hub boards. In a 1450 node supercomputing cluster example, 1U processing boxes with standard enterprise hardware could be more than $6 million per hardware implementation, while the AdvancedTCA deployment of a same CPU count would be around $500,000 less in hardware costs. That's substantial savings for companies looking to get the most out of their application's budget.

You want **More** choices You need **More** flexibility You expect **More** support

ALPHI offers you MORE

MIL-STD-1553
- UTMC Summit
- DDC ACE & mini ACE
- 1,2,3,4 channels
- Dual redundant
- For: CompactPCI, PMC, PCI & Industry Pack

Analog I/O
- 16 bit A/D and D/A
- Fast S/H converters
- DSPs and waveform RAM
- Simultaneous sampling
- For: CompactPCI, PMC, PCI, VME & Industry Pack

PMC Modules
- Data Acquisition
- Mil-Std-1553
- DSP & FPGA
- D/A out w/ wave RAM
- Communications

Industry Packs
- Data Acquisition
- Mil-Std-1553
- FPGA
- D/A out w/ wave RAM
- Serial I/O, Networking
- Digital, Isolated I/O

ALPHI offers custom products and integrated systems to meet YOUR exact specifications along with transition modules, terminal blocks and engineering development tools.

Industry Pack Carriers
- For: CompactPCI, PXI PCI and VME bus
- 3U & 6U form factor
- Front and rear I/O
- Low cost slave versions
- High performance with local DSP processors

ALPHI Technology Corporation

More Products & More Capabilities for More Solutions

ALPHI Technology Corporation
6202 South Maple Ave. #120
Tempe, AZ 85283
(480) 838-2428 fax(480) 838-4477
www.alphitech.com info@alphitech.com

The AdvancedTCA form factor has major supercomputing advantages as well. For example, a standard 19-inch AdvancedTCA shelf offers 14 slots in 12U of rack space. In a clustering application, 13 AdvancedTCA slots are available for processing in that 12U of rack space. With switching and interconnection fabrics available in the backplane, the cluster cabling nightmare is also greatly simplified in these large-scale deployments.

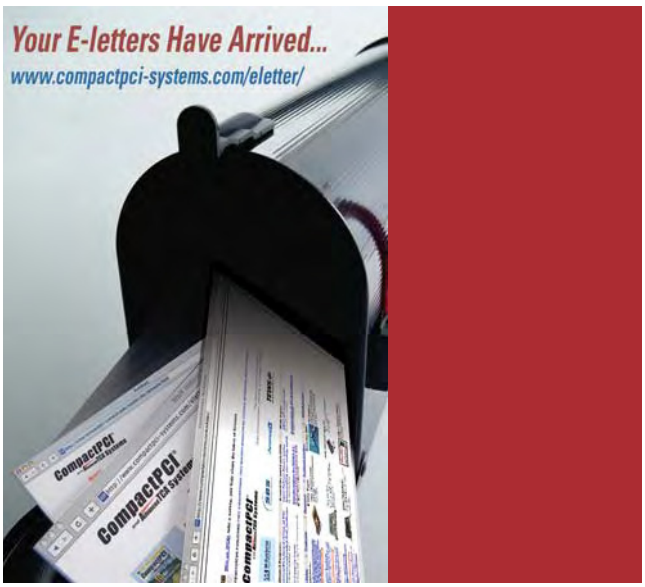
Two-thirds of the AdvancedTCA specification is devoted to chassis management. The above cost and size examples include the required AdvancedTCA shelf management. In the 1450 node example, management communication is reduced to just 112 shelf managers and includes the *cabling* via the separate data and control planes fundamental to AdvancedTCA. Specification-defined hot swap LEDs, graceful shutdowns, front panel LEDs, and AdvancedTCA native backplane fabric interconnects should promote easier management, better fault resolution, and quicker repair times than possible in a classic 1U clustering implementation.

AdvancedTCA may also allow something possibly unheard of in supercomputing clusters to date, and that is upgrades. With its fabric agnostic architecture, the capital investment in any shelf equipment is preserved. AdvancedTCA supercomputer racks can accept future higher performance CPU blades, memory advancements, and lower overhead fabrics without upgrade problems. This ease of upgradablity will help reduce the cost of future deployments by close to 10 percent.

Certainly, the success of AdvancedTCA rests in the hands of telecommunication deployments; but like Tang® from the space race, spin-off applications will benefit as well. With its price, size, cabling, modularity, and management benefits, AdvancedTCA could help usher in a new lower cost wave of large-scale supercomputing clusters based on its standardized processing and switch hardware.

For more information, visit www.dtims.com.

All registered names and trademarks are the property of their respective owners.



Elma Bustronic

44350 Grimmer Blvd.
Fremont, CA 94538
Tel: 510-490-7388 • Fax: 510-490-1853

ATCA Backplanes

www.elmabustronic.com

Bustronic has three versions of its AdvancedTCA backplanes – Mesh, Dual Star (5U), and 7U Pluggable Dual Star. All Bustronic ATCA backplanes are compliant to the latest PICMG 3.0 specifications. Slot sizes of these configurations include 2, 5, and 14. Other slot sizes and custom configurations are available. There are connectors for optional plugging of the IPM Sentry Shelf Manager.

Simulation/characterization studies confirm excellent signal integrity and performance.

FEATURES:

- Controlled-impedance stripline design
- Dual Star, Mesh, and Replicated Mesh configurations available
- Slot size of 2, 5, or 14; both 5U and 7U heights available; other sizes available
- Simulation/characterization studies confirm excellent signal integrity; unique ATCA probe card
- Leader in custom ATCA designs
- Leader in signal integrity studies for ATCA

For more information, contact sales@elmabustronic.com.

RSC #3001 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide

Accessories

Radian Heatsinks, a division of Intricast Company, Inc.

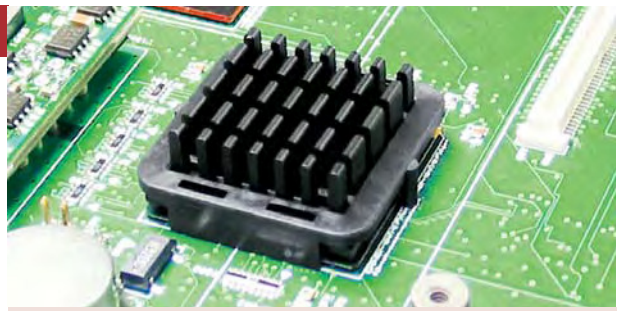
2160 Walsh Avenue
Santa Clara, CA 95050-2512
Tel: 800-689-2802 • Fax: 408-988-0683

ATCA BGA Heatsinks

www.radianheatsinks.com

Radian's low-profile BGA heatsinks provide optimum cooling for various BGA chips and surface mount packages, and are compatible with most CompactPCI, ATCA, and PC/104 form factors. These off-the-shelf, removable heatsinks are high efficiency solutions that come with many clip/pad options and require no special board modifications or complex assemblies.

The INE and EZ Snap Series BGA Heatsinks are conveniently sized to fit packages from 21mm to 45mm and a variety of chip heights. Standard low-profile heights range from 7.11mm to 9.8mm high. These compact, round and square pin designs are ideal for maintaining unconstrained microprocessor performance when available space and/or weight are limited.



FEATURES:

- Removable ATCA BGA heatsinks are easily installed, with no special board modifications needed
- Standard BGA heatsink sizes range from 21mm to 45mm footprints
- Heatsink heights available from 7.11mm to 9.8mm for low-profile CompactPCI, ATCA, and PC/104 applications
- Attachment options compatible with various chip heights and package types, including plastic, ceramic, and metal
- Black anodized plating delivers enhanced performance in harsh environments and natural convection
- All products provided preassembled, with lightweight aluminum heatsink, selected clip size, and thermal pad option

For more information, contact radiansales@radianheatsinks.com.

RSC #3002 @www.compactpci-systems.com/catalogrsc

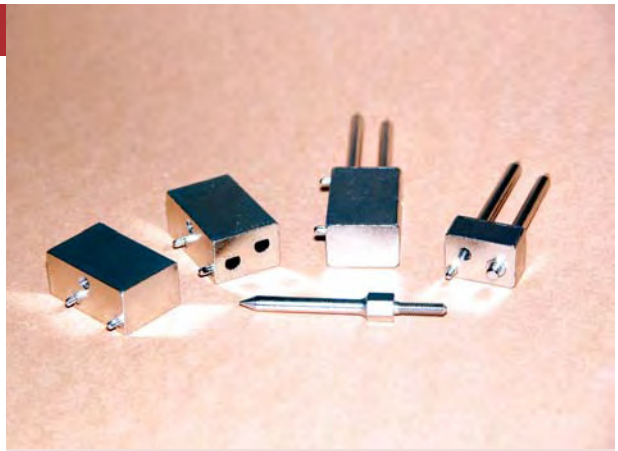
Tyco Electronics

PO Box 3608
Harrisburg, PA 17105
Tel: 800-522-6752 • Fax: 717-986-7575

Guide Hardware

www.tycoelectronics.com/products/ATCA

Tyco Electronics ATCA Guide Modules are available in various sizes and configurations and are suitable for use in a wide variety of applications including front board, midplane, backplane, and a Rear Transition Module as specified in the AdvancedTCA specification. The guide hardware features improved locating features to ensure guidance is maintained across all component tolerances while the dual-keyed pin configuration allows for many different keying possibilities.



FEATURES:

- Configurations for front board and backplane as well as midplane and coplanar applications in the RTM
- Vertical and right-angle pins to support right-angle and coplanar board configurations
- Guide pins are available in short or long lengths to accommodate various Tyco Electronics connectors

For more information, contact product.info@tycoelectronics.com.

RSC #3101 @www.compactpci-systems.com/catalogrsc

Kaparel Corporation, A Rittal Company

97 Randall Drive
Waterloo, ON N2V 1C5 Canada
Tel: 519-725-0101 • Fax: 519-725-0414

AdvancedTCA Backplane

www.kaparel.com

Rittal/Kaparel offers PICMG 3.0-compliant Full Mesh and Dual Star backplanes in 14-Slot and 16-Slot designs. In addition, custom designs are available for specific customer applications.

The Full Mesh backplane is produced in Nelco material. The Dual Star version is completed in 14 layers, and the Full Mesh in 18 layers. The material utilized allows for a thinner board as well as provides the signal integrity required for AdvancedTCA®-based applications. The backplanes use the high-speed ZD connector in Zone 2 for signal noise and ease of routing differential pairs. The routing uses broadside differential pairs providing low noise coupling without additional signal layers.

FEATURES:

- 14-Slot fabric interface with Full Mesh interconnect
- Base interface with Dual Star interconnect
- Split power distribution (odd Slots on A1/B1, even Slots on A2/B2)
- Bused IPMI-0 connections (optional configuration allows for radial connections)
- Synchronization clock interface on P20
- Metallic test and ring generator buses on J10

For more information, contact info@kaparel.com.

RSC #3102 @www.compactpci-systems.com/catalogrsc

Mellanox Technologies

2900 Stender Way
Santa clara, CA 95054
Tel: 408-916-0008 • Fax: 408-970-3403

10Gb/s 24-Port Switch

www.mellanox.com

The InfiniScale III is a third-generation InfiniBand switch device that supports twenty-four 10 or 20 Gb/s InfiniBand 4x ports, eight 30 or 60 Gb/s InfiniBand 12x ports, or a combination of 4x and 12x ports.

Delivering 960 Gb/sec of aggregate throughput, the device offers an unprecedented level of InfiniBand bandwidth.

FEATURES:

- 10Gb/s 24-port InfiniBand switch
- 24 Infinband 4x 10Gb/s ports with Double Data Rate (DDR) 20Gb/s capability
- Full-wire-speed capable switching core (960 Gb/s)
- Ports configurable into 12x uplinks (30Gb/s or 60 Gb/s DDR)
- Full, open-source Embedded Linux Management Kit available
- Ideal for VXS VITA 41 or ATCA 3.2 backplane fabric
- CPU interface for low-cost embedded fabric management

For more information, contact daves@mellanox.com.

RSC #3201 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide

Backplanes

Xilinx

2100 Logic Drive
San Jose, CA 95124
Tel: 408-559-7778 • Fax: 408-559-7114

Xilinx ATCA Platform

www.xilinx.com

The Xilinx FPGA-based PICMG ATCA™ 3.0 Design Kit stems from a joint effort between Avnet and Xilinx to accelerate adoption of the ATCA PICMG standard for high-speed networking and communication designs.

This kit includes a reference design that can be used as a development platform for PICMG 3.0 full-mesh line cards supporting system configurations of up to 16 cards and port rates to 2.5 Gbps. The heart of the reference design is the Virtex-II Pro device with RocketIO MGTs, serving as the interface to the full-mesh backplane. The full-mesh card allows application flexibility by reserving board area for a pluggable "personality module" to implement any application-specific line card function.

FEATURES:

- Four-channel, four-port (16 MGTs) full mesh fabric interface
- Supports IPMI interface and base interface ShMC port
- Headers for application-specific personality module
- Fully distributed system management architecture
- Supports management firmware running on IBM PowerPC processor immersed in Virtex-II Pro FPGA family
- Supports Linux-based control plane software

For more information, contact atca_dev@xilinx.com.

RSC #3202 @www.compactpci-systems.com/catalogrsc

Artesyn Communication Products
8310 Excelsior Drive
Madison, WI 53717
Tel: 608-831-5500 • Fax: 608-831-4249

PmPPC7447

www.artesyncp.com

Artesyn's PmPPC7447 is a complete processor subsystem in a very compact, industry standard form factor. It is designed to allow communication equipment manufacturers to add modular and upgradable functionality to their I/O baseboard. It also provides the localized horsepower necessary for applications such as protocol processing, packet processing, data filtering, or I/O management.

Using an off-the-shelf processor subsystem saves you time to market by allowing you to focus your engineering efforts on the key value-add portions of the system without spending time and effort on the processor design and testing. A modular processor subsystem also lowers your lifetime cost of ownership by providing an easy upgrade path, and protecting you from obsolescence issues.

Considerable engineering effort has gone into ensuring maximum flexibility on the PmPPC7447. The module can be used in both Processor PMC monarch and non-monarch modes, acting as the host for the local PCI bus or as a peripheral on the local PCI bus, depending on the application or baseboard.

FEATURES:

- Up to 1.3GHz Freescale PowerPC® MPC7447A processor
- Up to 2GB DDR SDRAM with ECC
- Up to 64MB Flash
- Marvell Discovery III system controller
- Dual 1000Base-T Ethernet with P14 access
- 10/100Base-TX Ethernet on front bezel
- I^2C & 4-GPIO ports with P14 access
- Real-time clock with supercap backup
- CG Linux® and VxWorks® BSPs available
- Quality assured by more than 30 years of design experience and a TL-9000 and ISO 9001:2000 certified quality management system (FM 26789)

For more information, contact info@artesyncp.com.

RSC #33 @www.compactpci-systems.com/catalogrsc

Artesyn Communication Products
8310 Excelsior Drive
Madison, WI 53717
Tel: 608-831-5500 • Fax: 608-831-4249

Katana™Qp

www.artesyncp.com

AdvancedTCA (PICMG 3.0) is the consummate open architecture telecom platform, and the KatanaQp is the ultimate configurable AdvancedTCA telecom blade. It features a two-way Symmetric Multi-Processing (SMP) architecture with dual PowerPC MPC7447A processors and a full complement of I/O for communications applications.

KatanaQp's PCI Telephony Mezzanine Card (PTMC, PICMG 2.15) expansion sites give telecom OEMs, who want to get started with AdvancedTCA today, instant access to a wealth of third party PTMC modules. This off-the-shelf expansion capability makes it easy to configure the KatanaQp for a wide variety of control and packet processing applications, including WAN access, SS7/SIGTRAN signaling, media gateways, traffic processing, wireless base station controllers, and softswitches.

In telecom network elements, system management is essential. KatanaQp is an intelligent FRU and implements a redundant System Management Bus (SMB). It also fully supports the Intelligent Platform Management Interface (IPMI) with AdvancedTCA extensions to support standards-based shelf management.

Using an off-the-shelf processor blade saves you time to market by allowing you to focus your engineering efforts on the key value add portions of the system without spending time and effort on the processor design and testing. A processor subsystem blade also lowers your lifetime cost of ownership by providing an easy upgrade path and protecting you from obsolescence issues.

Katana is a Japanese word for "sword." Artesyn's Katana family of processor blades embodies the power and swiftness of this sword.

FEATURES:

- Single or dual freescale PowerPC® MPC7447A processors running at up to 1.3GHz
- Two-way SMP architecture
- AdvancedTCA PICMG 3.1 Node (1000Base-T Base Fabric + Octal High Speed GbE Fabric)
- Layer 2 or 3 Ethernet switch option
- Quad PTMC expansion sites
- Redundant system management bus with IPM controller
- Up to 2 GByte DDR SDRAM w/ECC
- Up to 128MB linear Flash
- Real-time clock with supercap backup
- VxWorks® and CG Linux® support
- Quality assured by more than 30 years of design experience and a TL-9000 and ISO 9001:2000 certified quality management system (FM 26789)

For more information, contact info@artesyncp.com.

RSC #34 @www.compactpci-systems.com/catalogrsc

NEW!

Military Embedded Electronics & Computing Conference

May 16th and 17th, 2005 | Hyatt Long Beach, Calif.

Focusing on the unique needs of both embedded users and suppliers

The all-new MEECC show is an essential forum for uniformed and non-uniformed persons engaged in the design, development, deployment and support of electronics and computers for the military - from components through complete electronic systems. Here you'll find:

- The latest technology challenges examined as well as planning and support issues.
- Best ways to manage the rapid change in technology – providing the latest and most complete information that is often the key to a program's success.
- A unique opportunity for users to influence suppliers as to their needs, and suppliers to develop an effective product strategy.






The show will feature a range of technical and strategic planning tracks:

COOLcon – Focusing on technology to control the heat generated by components, boards and systems.

DMEA – "Transformational Opportunities in Military Electronics."

Conferences and Associations Updates – Executive summaries from different organizations reporting on the latest results and progress (e.g. DMSMS, CSME, etc.).

New Embedded Products – The latest embedded electronics and computational products.

Military Programs Update/Ask the Editors – An opportunity to meet with more than a dozen military editors and get their input on the market.

Keynote Speaker

Brigadier General Ted F. Bowlds, Deputy for Acquisition, Aeronautical Systems Center (ASC), Air Force Material Command (AFMC).

Principal Speaker

Ted J. Glum, the Director of the Defense Microelectronics Activity (DMEA).

Also ...

Three panels of powerful decision-makers in the embedded computing industry, expressing their views of the industry's needs, concerns and future:

User Panel – Senior personnel from the military and primes

Industry Advocates Panel – Government agencies, pundits and technology editors

Supplier Panel – Senior personnel from leading embedded suppliers

For more information see **www.meecc.com** – Register today attendance is limited.

Brought to you by VMEbus International Trade Association (VITA). All information is preliminary and subject to change.

ADLINK Technology Inc.
8900 Research Drive
Irvine, CA 92618
Tel: 866-4-ADLINK • Fax: 949-727-2099

ATCA-6890: AdvancedTCA High Performance SBC

www.adlinktech.com

The ATCA-6890 processor blade is ADLINK Technology's new advanced telecom platform building block. It is available in two configurations: a dual processor with the 2.8 GHz low voltage Intel® Xeon™ processor with an 800 MHz system bus or a single processor with the 3.2 GHz Intel® Xeon™ processor with an 800 MHz system bus. The ATCA-6890 also features the latest Intel® E7520 chipset with significant memory, up to 16 GB DDR2-400.

The ATCA-6890 AdvancedTCA processor blade is intended for use in AdvancedTCA compliant platforms. Its many peripherals include 7 GigE ports, one 10/100/1000Base-T maintenance port, four USB 2.0 ports, two PMC sites, a video (analog and flat panel), two Parallel ATA ports, two Serial ATA ports, and two Serial ports. The USB supports keyboard, mouse, and printer functions. A legacy PS/2 type connector is reserved on the Rear Transition Module (RTM).

ADLINK's AdvancedTCA building blocks feature the latest Intel® Xeon™ processor offerings and are based on the PICMG 3.0 specification. This form factor is best suited for mission-critical applications that require high functionality, reliability, and manageability such as telecom and networking communication.

FEATURES:

- One or two Xeon® and next-generation Xeon® processors, up to 3.67 GHz
- Intel® E7520 chipset, 800 MHz FSB
- Four DDR II-400 240-pin DIMMs, 16 GB memory maximum
- Two PMC slots with PCI-X bus, one supporting Jn4/Pn4 to RTM
- Seven GbE data ports: Four fabric interface and two base interface
- One 10/100/1000Base-T management port (front panel)
- ATI RageXL video
- Two Serial ATA, two Parallel ATA, two Serial, and four USB 2.0 ports

For more information, contact info@adlinktech.com.

RSC #36 @www.compactpci-systems.com/catalogrsc

AudioCodes
2890 Zanker Road, Suite 200
San Jose, CA 95134
Tel: 408-577-0488 • Fax: 408-577-0492

TP-12610 STM-1/OC-3 ATCA™ VoIP Communication

www.audiocodes.com

- Very high channel density – scalable up to 4032 LBR VoIP channels
- AdvancedTCA® (PICMG® 3.0) compliant
- Concurrent toll quality voice and fax support on all channels
- STM-1/OC-3 PSTN interface
- Built on 4 previous generations of proven and widely deployed VoP technology

Applications:
- Next Generation Switches
- VoIP Access Gateways
- Trunking Gateways
- Media Servers
- Wireless Gateways

The TrunkPack®-12610 AdvancedTCA® PICMG® 3.0 compliant VoIP Media Gateway Board is an ideal building block for deploying advanced high-density, high availability Voice over Packet (VoP) systems. The TP-12610 is designed to meet the requirements of engineers designing high-density VoIP trunking and access gateways, media servers, cable telephony gateways, and wireless gateways. Offering integrated voice and signaling gateway functionality, the TP-12610 supports all necessary functions for voice and fax streaming over IP networks.

Deliver feature-rich solutions
The TP-12610 supports a wide array of voice processing-related algorithms, including G.711, G.723.1, and G.729A Vocoders, G.168-compliant echo cancellation, T.38 real-time Fax over IP; a wide selection of In-band and Out-band tone detection and generation. In addition, the TP-12610 supports signaling protocols including: ISDN PRI, SIGTRAN (xUA), and CAS protocols. All media processing, signaling and control protocols are applied independently and simultaneously on all of the 4032 LBR channels.

Complies with industry standards
The TP-12610 board complies with industry standard network control protocols, i.e. MEGACO (H.248), as well as AudioCodes' proprietary API (TPNCP). This allows for the implementation of a distributed gateway architecture that separates call-processing functions from media streaming functions.

For more information, contact info@audiocodes.com.

FEATURES:

- 4032 voice/fax independent multiple LBR channels
- Integrated Automatic Protection Switching (APS) STM-1/OC-3, T3, E1/T1 PSTN interface options
- Scalable offering supporting lower channel counts than the maximum 4032
- MEGACO (H.248) compliant
- Complete "Media Gateway on a blade"
- G.168-2002 compliant echo cancellation
- Real-time fax over IP/T.38
- PSTN signaling: CAS, ISDN PRI, and SS7 Layer 2 termination
- Tone detection and generation (MF, DTMF, RFC 2833)
- SIGTRAN IUA, M2UA, M3UA2 over SCTP
- Dual redundant PICMG 3.0 base interface
- Dual star PICMG 3.1 Fabric interface
- IPMI compliant

RSC #37 @www.compactpci-systems.com/catalogrsc

Kontron
6260 Sequence Drive
San Diego, CA 92121
Tel: 888-294-4554 • Fax: 858-677-0898

AT8001ATCA processor board with Dual AMC

www.kontron.com/atca

Flexibility of dual AMC support significantly increases your application design options with two AMC module slots on one ATCA processor board. Powered by a low-voltage, high-performance Intel® Xeon™ processor, the AT8001 provides high interconnect performance and supports any number of high throughput I/O communications modules.

Faster go-to-market strategy
Kontron simplifies your application design process by ensuring that each ATCA/AMC building block is fully interoperable and designed to be the right technology and the right architecture in mind to suit your development needs. The result is lower costs and faster market deployments.

Best-of-breed carrier grade software
Pre-integrated and application-ready right out of the box, Kontron ATCA/AMC solutions also feature best-in-class carrier grade software such as MontaVista Linux Carrier Grade Edition (CGE), and hot-standby Solid CarrierGrade data manager from Solid Information Technology.

FEATURES:

- Single slot AdvancedTCA PICMG 3.0/3.1 processor board
- Intel® Xeon™ processor, scalable up to 2.8 GHz
- Dual AMC.1 module support
- Dual DDR-II DIMM for 8 GB of PC2-3200 registered 400 SDRAM
- Dual Gigabit Ethernet base interface
- Dual Gigabit Ethernet plus Dual Fibre Channel on fabric interface
- IPMI v1.5 support

For more information, contact sales@us.kontron.com.

RSC #38 @www.compactpci-systems.com/catalogrsc

NMS Communications
100 Crossing Boulevard
Framingham, MA 01702
Tel: 508-271-1109 • Fax: 508-271-1470

MG 7000A ATCA Media Processor

www.nmscommunications.com

MG 7000A – High-density media server and enhanced services platform

The NMS Communications MG 7000A is the ideal AdvancedTCA® platform for flexible media processing in network-based telephony and video solutions. By combining built-in high-speed IP packet handling, four Ethernet interfaces, high-density DSP voice processing power, and a high-speed processor with PSTN interfaces, the MG 7000A is the perfect choice for a wide range of applications ranging from IP media servers and enhanced service platforms to mobile video gateways and servers. New solutions are rapidly implemented on the MG 7000A using the powerful Media Access™ software development environment. Part of the NMS Open Access™ framework, the MG 7000A is the clear choice for next-generation AdvancedTCA solutions.

Applications:

- IP media servers
- Enhanced service platforms
- IVR, fax, and conferencing engines
- VoIP gateways
- Wireless/IP gateways
- VoIP and PSTN telephony testing systems
- High-density voice processing (DSP) resource

Technical description

The architecture of the MG 7000A integrates PSTN interfaces with up to 16 T1/E1 connections and CAS/ISDN support (optional), voice and video media processing, and VoIP capability into a single-slot, highly available ATCA blade. The MG 7000A complies completely with PICMG 3.0 R1 and IPMI Version 1.5 specifications. Dual Gigibit Ethernet interfaces support the ATCA switch fabric and dual 1000Base-T Ethernet ports support the ATCA base fabric. MG 7000A supports board level hot swap and the ATCA shelf controller through the dual IPMI bus with onboard OAM software. This integration of capabilities results in a cost-effective and scalable platform for OEMs building next-generation convergence solutions requiring capacities scaling from a few hundred to thousands of ports.

For more information, contact jack_chase@nmss.com.

RSC #39 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 480 IVR, fax, conferencing, VoIP, 3G-324M video sessions
- 16 T1/E1 ports
- Call control for CAS, ISDN, and SIP

Virtium Technology Inc.
30052 Tomas
Rancho Santa Margarita, CA 92688
Tel: 949-888-2444 • Fax: 949-888-2445

2GB DDR2 ECC SODIMM

www.virtium.com

Virtium's high-density 2GB DDR/DDR2 ECC Registered and Unbuffered memory packs the most density into the smallest board space. The space-saving design helps OEMs to differentiate their products by adding extra features and performance.

Applications include space-constrained, embedded industrial systems, military, telecommunications, medical, networking, and high-end laptops.

Critical quality and reliability requirements are met through the PCN and self-validation process. This minimizes the OEM product-testing burden.

Virtium engineering solutions enhance compatibility, performance, and product life cycle, and control component cost for OEMs.

For more information, contact pcie@virtium.com.

RSC #4001 @www.compactpci-systems.com/catalogrsc

FEATURES:

- VM493T5653-CC/D5/E6 – DDR2 Reg. ECC 1.450" height, 0.150" thickness
- VM491T5653-CC/D5/E6 – DDR2 Unb. ECC 1.450" height, 0.150" thickness
- VM483L5625-B0/B3/CC – DDR Reg. ECC 1.400" height, 0.280" thickness, four-bank module with low-cost 512Mbit ICs
- VM485L5625-B0/B3/CC – DDR Unb. ECC 1.400" 0.280" thickness, four-bank module with low-cost 512Mbit ICs
- Rugged designs and BOM control
- ECC/Non-ECC options

RSC# 4002 @www.compactpci-systems.com/rsc

the missing piece in your network

Providing Electronic Packaging Solutions FROM CONCEPT TO APPLICATION >> on time and on budget

When it comes to providing leading edge technology for the global embedded computer market, Kaparel/Rittal gives you the complete solution with our AdvancedTCA® Shelf.

Our AdvancedTCA® Shelf is compliant with PICMG 3.0 and features 4 RiCool-2 blowers that provide the cooling required for 200 Watts per Slot. Enclosed in a stainless steel subrack, the Kaparel/Rittal Central Office ready AdvancedTCA® Shelf is available with a Dual Star or Full Mesh Backplane with maximum speeds up to 10 Gbps. The fully redundant system is available in versions to accommodate radial or bused IPMI solutions, Chassis Management Module (CMM) or Shelf Management Controller (ShMC).

In addition to the AdvancedTCA® Shelf, we offer a complete range of faceplates and filler panels in standard and custom designs. Let us provide your next generation solution on time and on budget.

CALL OR eMAIL US FOR A FREE PRODUCT CATALOG

1.877.452.7273

catalog@kaparel.com

www.kaparel.com

Kaparel
A RITTAL Company

RITTAL

RSC# 41 @www.compactpci-systems.com/rsc

ERNI Electronics, Inc.
3005 E. Boundary Terrace
Midlothian, VA 23112
Tel: 804-228-4100 • Fax: 804-228-4099

ERmet ZD High Speed Backplane Connector

www.erni.com

The ERmet ZD connector system is an extension of the already established IEC 61076-4-101 Hard Metric (HM) connector family, providing a differential data transfer solution for applications in the range of 3-5 Gbits/sec.

The ERmet ZD connectors easily integrate into existing backplane and subrack designs utilizing the HM, CompactPCI, or Eurocard design standards. This new connector shares with the HM connector (IEC 61076-4-101) such mechanical design features as: key layout dimensions, pin heights, sequential mating dimensions, plastic coding keys, and press-fit hole requirements.

The new connector system is specifically designed to meet the challenging electrical performance required by next-generation designs utilizing low-voltage differential signaling. The connector provides low cross talk, low skew, improved trace routing, reliable dual beam contacts, 1.5-millimeter mating intervals, and a rugged housing; all in a 100-ohm differential signaling environment.

Each 100-ohm differential is a transmission line with its own tightly coupled reference ground to control impedance and minimize connector noise. Additionally, the "L" shaped shield blades provide for rugged mating and greatly reduce the possibility of contact stubbing. These shields also stand more than a millimeter higher than the signal pin pairs. This mechanical arrangement will help protect the signal pins from damage during the handling of backplanes equipped with these connectors. The plastic housing has additional pre-alignment pins that help align the connectors prior to contact engagement. These plastic blades have been made sturdier to further reduce the possibility of pin stubbing.

FEATURES:

- Fully compatible with 2mm HM equipment
- 2mm HM hardware and accessories
- Designed specifically for high-speed differential
- Excellent footprint and routability
- Optimized trace width and trace space
- Supports speeds beyond 5.0 Gbits/sec
- Four-pair 25mm provide 40 differential pairs/25 mm
- Three-pair 25mm provide 30 differential pairs/25 mm
- Two-pair 25mm provide 20 differential pairs/25 mm

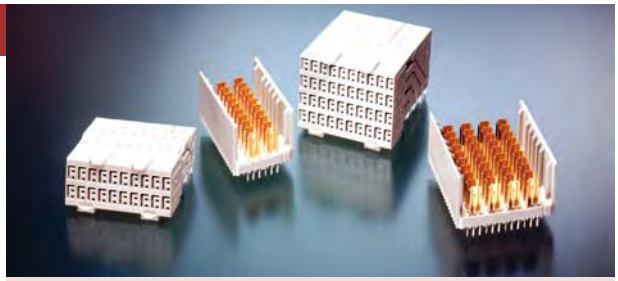
For more information, contact info.usa@erni.com

RSC #42 @www.compactpci-systems.com/catalogrsc

Tyco Electronics
PO Box 3608
Harrisburg, PA 17105
Tel: 800-522-6752 • Fax: 717-986-7575

Z-PACK HM-Zd

www.tycoelectronics.com/products/ATCA



Z-PACK HM-Zd from Tyco Electronics is the high-speed, Advanced Differential Fabric Connector system specified by PICMG for use in AdvancedTCA Zone 2. It is compatible with the Z-PACK 2mm HM connector line specified in the CompactPCI specification providing 2mm HM users with a migration path for serial switching applications from 3.125 Gb/s to 10+ Gb/s.

In addition to the four-pair connector modules specified for use in AdvancedTCA Zone 2, the product line includes two-pair and three-pair signal modules, coplanar connectors, and high-speed cable assemblies for use in Zone 3. A mezzanine style connector is also available in a four-pair version.

For more information, contact product.info@tycoelectronics.com.

RSC #4301 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Designed specifically for high-speed differential applications (3.125 Gb/s to 10+Gb/s)
- A modular connector system with a standard module size of 25.00 [.984]
- Z-PACK HM-Zd is an extension of the Z-PACK 2mm HM product line
- Pin header and receptacle have the exact same footprint to simplify PC board layout
- Optimized footprint supports quad routing techniques for improved electrical performance, ease of trace routing, and significant PCB manufacturing cost reductions
- Designed to meet Telcordia requirements

Connectors
CompactPCI® and AdvancedTCA® Systems Resource Guide

Tyco Electronics
PO Box 3608
Harrisburg, PA 17105
Tel: 800-522-6752 • Fax: 717-986-7575

COM Express

www.tycoelectronics.com/products/ATCA

Tyco Electronics Free Height (FH) connectors are designed for use in applications requiring the use of parallel stacking printed circuit boards. The 220 and bridged 440 position connectors are specified by PICMG for use in COM Express applications.

The Tyco Electronics Free Height (FH) product family consists of vertical board-mount receptacles and plug assemblies. These 0.5mm fine pitch connectors provide the capability of varying the spacing between parallel boards from 4mm to 16mm to accommodate various packaging requirements and equipment designs.

The enhanced electrical performance version (GIGA) includes ground shields for use in high-speed applications.

For more information, contact product.info@tycoelectronics.com.

RSC #4302 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Available in 120, 160, 200, 220, and 240 positions
- Available in 240, 320, and 440 positions using a bridge for alignment of dual connectors during SMT processing
- 220 and bridged 440 in both 8mm and 5mm stack heights are specified by PICMG Com Express
- Stack heights from 4mm through 16mm
- Available with ground shield for high-speed applications
- Designed and packaged for automatic placement per EIA standards

Tyco Electronics
PO Box 3608
Harrisburg, PA 17105
Tel: 800-522-6752 • Fax: 717-986-7575

ATCA Power Connector

www.tycoelectronics.com/products/ATCA

Tyco Electronics' ATCA Power Connector is designed to meet or exceed the PICMG 3.0 (AdvancedTCA) specification for Zone 1 connector requirements including four levels of sequential mating to ensure proper system functionality during live insertion or extraction of front boards. Integrated lead-in on the injection molded housing provides superior blind mate capability and is fully intermateable with competing connectors designed to meet the AdvancedTCA specification for power connectors.

FEATURES:

- High conductivity, precision formed contacts
- Selective plating in compliance with RoHS requirements
- Precision formed compliant pin offers excellent retention to ensure a reliable connection

For more information, contact product.info@tycoelectronics.com.

RSC #4401 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide Connectors

Tyco Electronics
PO Box 3608
Harrisburg, PA 17105
Tel: 800-522-6752 • Fax: 717-986-7575

AMC Connector

www.tycoelectronics.com/products/ATCA

Tyco Electronics is developing an Advanced Mezzanine Card (AMC) connector designed to meet the PICMG AMC specification for use with AdvancedTCA carrier boards and other related applications. The AMC product family from Tyco Electronics will include single-part Z-Pluggable connectors in Extended (B+ and A+B+) styles as well as a unique A+ style for low-profile applications.

FEATURES:

- A+, B+, A+B+ styles
  - Targeted for high-speed differential applications (3.125 Gb/s to 10+Gb/s):
  - Precision formed compliant pin reduces stub effect and offers excellent retention to ensure a reliable connect
- Suitable for assembly processes using flat rock tooling

For more information, contact product.info@tycoelectronics.com.

RSC #4402 @www.compactpci-systems.com/catalogrsc

Yamaichi Electronics USA, Inc.
2235 Zanker Road
San Jose, CA 95131
Tel: 408-456-0797 • Fax: 408-456-0799

AMC – (CN074 Series) Connector

http://www.yeu.com

The Advanced Mezzanine Card (CN074 Series) connector manufactured by Yamaichi Electronics is designed for use with high-speed interfaces up to 12.5 Gbit/sec. This product complies with the PICMG AMC.0 Rev. 1.0 specification ratified by the PICMG Executive Committee in January of 2005.

The CN074 connector is a "Z-pluggable" surface mounted compression connector. The design is modular in concept. There are three basic parts to the connector: the contacts mating to the AMC Module, the flex circuit, and the contacts mating to the carrier board. Many of the internal parts are interchangeable within the B, B+, AB, and A+B+ connectors, and only the housing is different. This allows more flexibility meeting the spec, as well as other custom oriented designs. An example of this would be an A-Type slot-only requirement. The contact design implements a very short stub. All are designed for 100Ω ±10Ω controlled impedance. A special stiffener inside counterbalances the metal stiffener under the compressive part of the carrier board. This controls PCB and connector warpage, and allows easy insertion of the AMC modules into the slot.

At the very heart of the connector is a high-performance, high-speed FPC, called the YFlex. Making use of LCP as the base substrate produces very low CTE and integrates B^{2IT} interconnect technology. The differential pair matched impedance designs, already incorporated in our standard YFB product line, enable customers the confidence in delivering high-speed data transfers. Combined with excellent electrical properties and overall performance, these connectors address the carrier-grade needs for Reliability, Availability, and Serviceability (RAS).

FEATURES:

- PICMG AMC.0 Revision 1.0 compliant
- GR-1217-CORE compliant
- Compression style contacts to the carrier board with wiping action to ensure high reliability
- Integrated, high-performance Yamaichi developed YFlex with B^{2IT} interconnect technology
- Base substrate for YFlex is LCP material, which has a very low CTE
- Contacts designed for high-speed applications – very short stub
- Supports speeds beyond 12.5 Gbit/s
- Low Dielectric Constant Insulation Material:
  – Connector Housing: 3.10 @ 6 GHz
  – YFlex: 2.85 @ 6 GHz
- Controlled impedance contacts 100 Ω ±10Ω
- 200 mating cycles
- Operating temperature: –55°C to 105°C

For more information, contact info@yeu.com.

RSC #45 @www.compactpci-systems.com/catalogrsc

TeraChip
2479 East Bayshore Road, Suite 700
Palo Alto, CA 94303
Tel: 650-320-8148 • Fax: 650-320-8149

160Gbps Switch Fabric Solution

www.tera-chip.com

TeraChip's 160Gbps switch fabric solution is fully compliant with the AdvancedTCA chassis. Offering low risk, simplicity, and scalability, the solution is designed for access products, optical transport systems, wireless infrastructure, and server blades. TeraChip's solution helps system vendors reduce development cycles and costs providing for 160Gbps switching capabilities in a single 15W chip. The TeraChip solution is scalable up to 320Gbps in an AdvancedTCA chassis.

The solution is based on the TCF16X10 single-chip switch fabric device and on the TCI line card interface family, all available today from TeraChip.

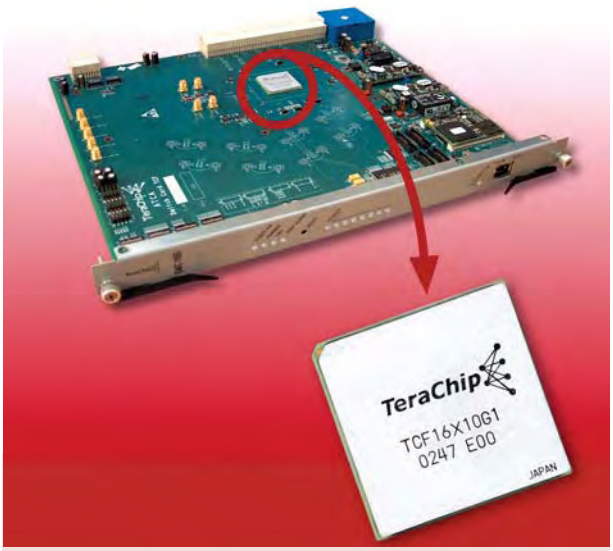
Using shared memory architecture, high-efficiency flow control, and variable cell size, the TCF16X10 reduces fabric need for overspeed. This enables highly efficient use of fast backplane serial links, reduced power consumption, design time, and overall system cost. The TCF16X10 is capable of switching data streams of 10Gbps (OC-192 and 10G Ethernet) in non-blocking, single-chip shared-memory architecture with eight priority queues per port. Each device supports 16 ports of 10Gbps full duplex per port, resulting in 160Gbps switching throughput capacity. The TCF16X10 uses XAUI channels of 4 SerDes and is fully compliant with the connectivity specifications of the AdvancedTCA standard.

The TCI1X2 line card incorporates end-to-end dynamic load balancing, enabling 1:1 and 1+1 concurrent redundancy between multiple TCF16X10-based switch cards. The TCI1X2 line card interface device offers the following full standard 10Gbps interface options to the NPU or TM: CSIX-L1, CSIX over LVDS, SPI4.2, and NPSI.

To further reduce the development process, TeraChip offers the TSC-160XUI-A1 160Gbps switch fabric card and a complementary management suite.

For more information, contact reuven@tera-chip.com.

RSC #46 @www.compactpci-systems.com/catalogrsc



FEATURES:

- AdvancedTCA-compliant 160 Gbps solution
- Single chip-based solution with low power consumption of only 15w
- Scalable up to 320Gbps in an AdvancedTCA chassis
- Switch card redundancy of 1:1 and 1+1
- Line card protection
- Directed end-to-end Flow Control (FC) by slot and CoS
- Dynamic load balancing
- Dynamic cell size
- 8 CoS queuing on ingress and egress with WRR & Strict priority

Tundra Semiconductor Corporation
603 March Road
Ottawa, ON K2K 2M5 Canada
Tel: 613-592-0714 • Fax: 613-592-1320

Tundra Tsi568A™ Serial RapidIO® Switch

www.tundra.com

The Tundra Semiconductor Corporation (Tundra) Tsi568A is an industry leading Serial RapidIO switch supporting 80Gbit/s aggregate bandwidth. The Tsi568A is part of a family of switches that enable customers to develop systems with robust features and high performance at low cost.

The Tsi568A provides designers and architects with maximum scalability in order to design the device in a wide range of applications. Flexible port configurations can be selected through multiple port width and frequency options.

Based on the Serial RapidIO Specification, the Tsi568A incorporates SerDes functionality, error recovery, priority-based fabric routing, high payload efficiency, and table-based fabric routing. The extensive buffering and traffic management architecture is specifically designed for line rate termination and the prevention of head-of-line blocking.

The device goes beyond standard specification requirements to solve system level issues by optimizing performance, lowering power consumption, and supporting hot swappable I/Os. Also, system cost is reduced by integrating SerDes capability resulting in a small package and less components per card.

The Tsi568A can be used in many embedded communication applications. It provides chip-to-chip interconnect between I/O devices and can replace existing proprietary backplane fabrics for board-to-board interconnect which improves system cost and product time-to-market.

TARGET MARKETS

Wireless Embedded Communications: Node B, Radio Network Controller, Media Gateway

Access Embedded Communications: Multi-service WAN Switches, 1 to 10Gbit Ethernet Switches, 1 to >10Gbit Routers, DSLAMS, softswitch

Storage: Storage Area Networks, Network Attached Storage, High-Performance Workstations

For more information, contact sales@tundra.com.

FEATURES:

- Up to eight 4x links and up to sixteen 1x links; each 4x link is decomposable into two 1x links
- Supports 1.25, 2.5, and 3.125 Gbaud rates
- Low latency – cut through mode
- Full duplex, line rate termination, non-blocking fabric
- Prevention of head-of-line blocking
- 10Gbps links
- CRC handling for hardware-based error recovery
- Error status and reporting for high availability
- Configurable on port width and speed
- Port power-down
- Programmable SerDes
- Small 27mm x 27mm package
- Pb-free packaging

RSC #47 @www.compactpci-systems.com/catalogrsc

ZNYX Networks, Inc.
48421 Milmont Drive
Fremont, CA 94538
Tel: 510-249-0800 • Fax: 510-656-2460

ZX6000/7000 PICMG 3.0 / 3.1 ATCA Hub Board

www.znyx.com

The ZX6000 implements 24 ports of Gigabit Ethernet switching for the PICMG 3.0 base interface and chassis egress. When upgraded to the ZX7000 configuration, the subsystem adds 24 ports to support PICMG 3.1 Option 1 and Option 2 payload blades.

The ZX6000/ZX7000 go far beyond simple Layer 2/3 switching. The PTMC sites enable add-on capability such as in-band packet processing, chassis accessible storage, extra processors, or media conversion such as T1/E1, ATM, and other I/O. Combined with the OpenArchitect® switch management software capability of line rate packet classification, the ZX6000/ZX7000 series increases the chassis throughput and lowers the overall system cost. The line-rate load-balancing feature enables true ATCA scalability. And OpenArchitect® HA Suite offers a robust IP-transparent failover solution.

The unique ZMC™ feature of the ZX6000 enables it to support any ATCA fabric. In addition to variations of PICMG 3.1, the ZX6000 can be upgraded to provide other fabrics including ASI Switching (PICMG 3.4), RapidIO (PICMG 3.5), or even fully proprietary or emerging-standard fabric interconnects.

OpenArchitect® supports user applications running in the industry-standard, carrier-grade Linux environment. Chassis functions that otherwise might consume a processor and an ATCA payload slot can be run right within the fabric slot.

The Linux advantage also reduces learning curve costs. Technicians familiar with Linux network configuration can become proficient with an OpenArchitect switch within minutes. ZNYX Networks has enhanced the Linux switch management software environment with its high availability software suite, enabling rapid fail-over environments that meet demanding telco specifications.

For more information, contact sales@znyx.com.

RSC #48 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 24-port (ZX6000) or 48-port (ZX7000) Gigabit Ethernet non-blocking switch fabric (upgradable)
- 16-slot chassis support for base interface
- PICMG 3.1 Option 1 & 2 support
- Four (ZX6000) or two (ZX7000) PTMC Option 5 slots
- Configurable front and rear panel egress
- OpenArchitect® 3.3 switch management w/ Linux kernel
- Wire-speed Layer 2-7 packet classification
- Three ports out-of-band management
- CompactFlash
- Real-time clock
- USB
- Enhanced protocol package includes OSPF, RIP, EGP, BGP, IP Multicast, VRRP, and more

XTech
80 Trim Way
Randolph, MA 02368
Tel: 781-963-7200 • Fax: 781-963-7203

We Think Outside the Box
So You Can Think In It

AdvancedTCA front panels from XTech

www.xtech-outside.com

XTech, a full service, on-demand supplier for every packaging need, offers a comprehensive line of AdvancedTCA front panels. Available in both standard and customized profiles, the line is compatible with all AdvancedTCA® standard components.

XTech is one of the few companies that provide unlimited configuration flexibility. It uses extruded aluminum to manufacture its AdvancedTCA front panels, which are lighter than stainless steel. The firm's extruded aluminum process delivers a contemporary, high-tech look and feel for its customers' products.

Compatible with AdvancedTCA chassis, shelves, ejectors, or handles, XTech AdvancedTCA front panels offer multiple options for configuration with embedded electronics systems. Using its in-house extrusion and finishing equipment, XTech designs, finishes, and assembles fully customized, affordable variations.

XTech also provides four standardized AdvancedTCA panel profiles. XTech accepts orders of any size, and can fulfill requests for prototypes or production units in just a few weeks. We also offer full support for transitioning your product through its entire life cycle.

XTech front panels are lighter in weight than other materials, yet extremely rugged. They require no forming or bending, and can be shaped into numerous design variations: square corners for a crisp look; detents for plastic labeling; or offsets for EMI shielding strips or clips. They are also available with polycarbonate labeling. With state-of-the-art punch tooling and CNC machining, XTech adds connectors, hoods, or LED configurations, as well as flexible board-mounting options.

AdvancedTCA front panels are suited for a range of embedded systems, including instrumentation, medical devices, military equipment, telecommunications systems, data communications, and data storage equipment.

FEATURES:

- Lighter than stainless steel
- Compatible with AdvancedTCA chassis from all major manufacturers, as well as AdvancedTCA ejectors, handles, and gaskets
- Fast turnaround for prototypes, production pieces, and custom orders
- Design assistance, finishing, labeling, and assembly
- No minimum volumes
- An unlimited variety of customized profiles
- A choice of four standard profiles
- Complies with PICMG 3.0 specifications
- Unsurpassed EMI and RFI shielding
- Excellent heat dissipation
- Any size – Any time – Any quantity
- Full support for transitioning product through its life cycle

For more information, contact inquiry@xtech-outside.com.

RSC #49 @www.compactpci-systems.com/catalogrsc

Fulcrum9, Inc.
PO Box 2902
Acton, MA 01720
Tel: 781-248-9155 or 978-549-3868

Fulcrum9, Inc.
System Testing Solutions

Fulcrum9 Tx/Rx BenchBlade

www.fulcrum9.com

Product overview

The Fulcrum9 Tx/Rx BenchBlade test card offers the flexibility to verify the performance of AdvancedTCA fabric and base channels. The set of four (4) Transmit pairs and four (4) Receive pairs allow access to a full channel's eight (8) pairs for complete logic card characterization.

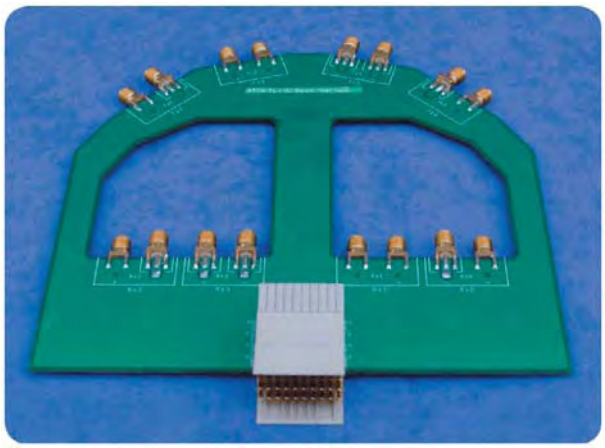
The card includes an HM-ZD Male connector segment for access to the Zone 2 connectors of a switch fabric or node card. Edge-launch SMA connectors are utilized for ease of test cable attachment. SMT pads are included on the Receive pairs.

The Tx/Rx BenchBlade is a diagnostic and validation tool powerhouse. This test card completely eliminates the dependency on logic card availability to validate a backplane design. The Tx/Rx BenchBlade also provides engineers with a tool to analyze and optimize their node and line card designs long before fabrication takes place.

There are many Fulcrum9 Tx/Rx BenchBlade analysis options, such as:

- Skew and connectivity (TDT) analyses
- Signal Impedance analysis (TDR)
- Sample SERDES signals across a backplane
- Investigate alternatives for optimized designs
- Probe, observe, and measure eye-openings

The Tx/Rx BenchBlade is not restricted to only AdvancedTCA design validation. It is designed to be used to analyze any HM-ZD-based design.



FEATURES:

- AdvancedTCA compatible design that uses an right angle male HM-ZD connector for bench testing ATCA hub and node cards
- Provides four (4) Transmit and four (4) Receive pairs to test a complete ATCA channel
- Edge-launch SMAs for superior bandwidth and ease-of-test cable attachment
- Flexible connector alignment (connector guides are removed) allows all signals to be easily probed
- Differential impedance of 100 W ±5%
- SMT pads provided on Receive channels
- Cutouts for cable access to Receive pairs and ease-of-card insertion/removal
- Rx channels capable of utilizing high bandwidth coaxial blocking capacitors
- Eliminate dependency on logic card availability for system evaluation
- Verify and evaluate design compliance with AdvancedTCA guidelines

For more information, contact fulcrum9@verizon.net.

RSC #50 @www.compactpci-systems.com/catalogrsc

Fulcrum9, Inc.
PO Box 2902
Acton, MA 01720
Tel: 781-248-9155 or 978-549-3868

Fulcrum9, Inc.
System Testing Solutions

Fulcrum9 Tx/Rx SignalBlade

www.fulcrum9.com

Product overview

The Fulcrum9 Tx/Rx SignalBlade test card offers the flexibility to verify the performance of AdvancedTCA fabric and base channels. The set of four (4) Transmit pairs and four (4) Receive pairs allow access to a full channel's eight (8) pairs for complete backplane path characterization.

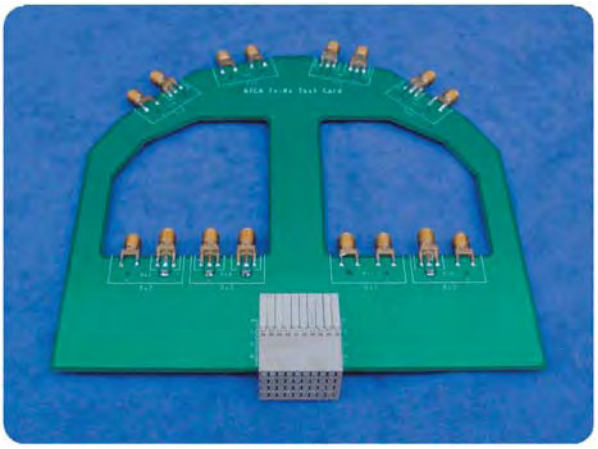
The card includes an HM-ZD connector segment for access to the backplane and edge-launch SMA connectors for ease of test cable attachment. DC blocking capacitors are included on the receive pairs as required by AdvancedTCA.

The Tx/Rx SignalBlade is a diagnostic and validation tool powerhouse. Engineers can emulate a backplane by using two SignalBlades attached through cable, thus eliminating the need to wait for a backplane to test logic card design and performance. The Tx/Rx SignalBlade provides engineers with a tool to analyze and optimize their backplane and logic cards long before fabrication takes place.

There are many Fulcrum9 Tx/Rx SignalBlade analyses options, such as:

- Skew and Connectivity (TDT) analyses
- Signal Impedance Analysis (TDR)
- Sample SERDES signals from node and line cards
- Perform clock verification of your system
- Access signals to evaluate bus termination
- Investigate alternatives for optimized design
- Probe, observe, and measure eye-openings

The Tx/Rx SignalBlade is not restricted to only AdvancedTCA design validation, but can be used to analyze any HM-ZD-based design.



FEATURES:

- AdvancedTCA compatible design that uses an HM-ZD backplane connector
- Provides four (4) Transmit and four (4) Receive pairs to test a complete ATCA channel
- Edge-launch SMAs for superior bandwidth and ease-of-test cable attachment
- Flexible connector alignment (connector guides are removed) allows all signals to be easily probed
- Cutouts for cable access to Receive pairs and ease-of-card insertion/removal
- DC blocking capacitors included on Receive channels
- Differential impedance of 100 W ±5%
- Eliminate the dependency on backplane availability to analyze your logic card designs
- Verify and evaluate design compliance with AdvancedTCA guidelines

For more information, contact fulcrum9@verizon.net.

RSC #51 @www.compactpci-systems.com/catalogrsc

Astec Power
2280 Alfred-Nobel Blvd.
St. Laurent , PQ H4S 2A4 Canada
Tel: 514-832-6600 • Fax: 514-832-6696

Power Systems

www.astecpower.com

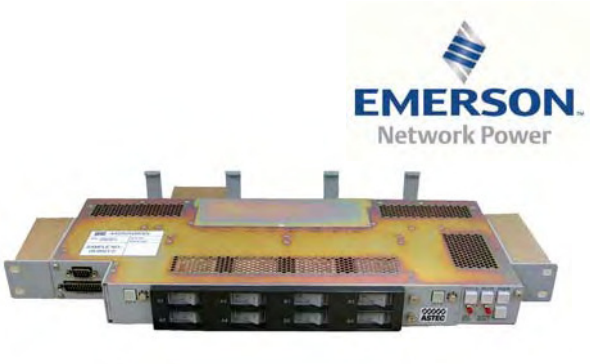
Astec Power's Breaker Interface Panel (BIP) provides a centralized location for equipment overcurrent protection, alarms, and filtering while improving system power stability. Combining the convenience of a Power Distribution Unit (PDU) with alarm, monitoring, and filtering modules, the BIP is designed to be fully compatible with both the power systems serving Advanced Telecommunications Computing Architecture (AdvancedTCA) and the AdvancedTCA equipment.

The BIP is contained in a 1U high envelope, compatible with EIA 19-inch and 23-inch racks and ETSI 600mm racks. It also complies with ETSI 300mm depth requirements and accommodates all power and alarm cabling within that depth. With four, separate 100A input power feeds, each unit supports dual or redundant A and B input connections and accepts a wide input-voltage range from –40 to –75 VDC. It provides up to eight outputs, each output protected by a field-replaceable circuit breaker rated up to a maximum of 50A.

Featuring filtering up to 3,000 microFarads per bus, the BIP also provides the standard telecom power alarm signals, including minor, major, critical (initiated by the equipment) input feed fail, and output breaker trip alarms. Additional alarm features include a connectorized remote interface via volt-free contacts, and an LED test switch. All modules can be hot swapped in the field without service interruption.

Available now in many configurations, the BIP complies with worldwide safety and performance standards including UL, CSA, EN, and Bellcore.

For further information, contact:
Sam Rosenberg@AstecPower.com or
call 613-270-1204



FEATURES:

- Low Profile chassis:
  – Fits in 1U high (1.72"/43.6 mm max); 19" EIA /300mm ETSI compatible width
- Up to four (4) x 100A input feeds
- Supports dual A & B redundant input feeds or four quadrant A1, A2, B1, B2 input feeds
- Eight (8) outputs:
  – Two (2) pluggable breakers per input feed
  – Outputs individually circuit breaker protected
- Equipped with two (2) filter modules
  – 1.5mFarads filter capacitor per input feed; automatic inrush current limit
- Includes one (1) alarm module:
  – Input feed fail alarm
  – Output breaker trip alarm
  – Critical, major, minor failure alarms
- All modules hot swappable, and field replaceable without service interruption
- Safety approved: cUSAul to IEC 60950 3rd ed., CB report, & CE LVD, GR-063-CORE

For more information, contact info@astec.com.

RSC #52 @www.compactpci-systems.com/catalogrsc

Potentia Semiconductor
200-4043 Carling Avenue
Ottawa, ON K2K 2A4 Canada
Tel: 613-592-0027 • Fax: 613-592-1686

PS-2406

www.potentiasemi.com

Potentia devices effectively manage card power circuits in accordance with the ATCA standard, ensuring compliance and delivering several advanced power management features. The PS-2406 power subsystem controller provides power management of up to four secondary side DC-DC power converters. It meets industry power management specifications for 48V ATCA circuit boards requiring Field Replaceable Units to consume no more than 10W of power for the IPMC and associate power management circuit. The PS-2406 sequences and manages payload power under the control of the IPMC. Using I²C, the IPMG can read relevant primary side data via the PS-1006 and secondary side power parameters from the PS-2406 registers.

For more information, contact info@potentiasemi.com.

RSC #5301 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Extensive primary side monitoring from PS-1006 delivered across the isolation barrier via the PI-Link™
- –48V inrush control
- Programmable sequencing for startup, shutdown and fault conditions
- Controls power sequencing, monitoring and fault handling
- Programmable output overvoltage (OV) and undervoltage (UV) warning and fault threshold
- Three general purpose analog inputs for monitoring temperature and other parameters

Power management/entry modules
CompactPCI® and AdvancedTCA® Systems Resource Guide

Potentia Semiconductor
200-4043 Carling Avenue
Ottawa, ON K2K 2A4 Canada
Tel: 613-592-0027 • Fax: 613-592-1686

PS-1006

www.potentiasemi.com

Potentia devices effectively manage card power circuits in accordance with the ATCA standard, ensuring compliance and delivering advanced power management features. The PS-1006 is a primary side power management IC enabling monitor and control of primary side power functions such as 48V backplane voltage, card current, inrush current, and multiple fuse status. PS-1006 is currently the only device that provides integration of primary and secondary side power control schemes via a serial data link, the PI-Link, across the isolation barrier. Together with the PS-2406, it provides a complete primary/secondary ATCA power management chipset, exceeding the minimum required of PICMG 3.0.

For more information, contact info@potentiasemi.com.

RSC #5302 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Extensive primary side monitoring delivered through the PS-2406 across the isolation barrier via the PI-Link™
- –48V inrush control and timed circuit breaker functionality
- Programmable sequencing for startup, shutdown and fault conditions
- Programmable output overvoltage (OV) and undervoltage (UV) warning and fault threshold
- Three general purpose analog inputs for monitoring temperature and other parameters

Avnet Electronics Marketing
2211 S. 47th St.
Phoenix, AZ 85034
Tel: 800-332-8638

Xilinx® AdvancedTCA™ Reference Design Kit

em.avnet.com

Xilinx® and Avnet Electronics Marketing have released a new design kit that reduces time-to-market and costs for a wide range of serial backplane applications. The new Advanced Telecom Compute Architecture (ATCA™) PICMG™ 3.0 specification creates a flexible, industry-standard platform that lets you cut-and-paste previously complex and expensive high-speed serial portions of your design.

The ATCA PICMG 3.0 Design Kit can be used as a development platform for PICMG 3.0 full-mesh line cards supporting system configurations of up to 16-cards and port rates up to 3.125 Gbps. The heart of the reference design is the Virtex-II Pro™ device with RocketIO™ Multi-Gigabit Transceivers (MGT), serving as the interface to the full-mesh backplane. The full-mesh card also allows application flexibility by reserving an area of the board for a plug-in "personality module" (PM). You can use the PM to implement any application-specific line card and easily connect to the full-mesh card through the included headers.

All documentation and design files for the Full Mesh Fabric Example Design are included with the purchase of a Design Kit, including ingress and egress datapath blocks, serial link interface blocks utilizing RocketIO MGTs, and a management interface block for control plane access to internal control and status registers.

For a limited time, Avnet Electronics Marketing is offering a $500 discount on the 2VP50 ATCA PICMG Design Kit. This kit, which typically retails for $4,999, is available for $4,499. Visit our website to purchase a discounted kit today.

About Avnet Electronics Marketing
Avnet Electronics Marketing serves electronic original equipment manufacturers (EOEMs) and electronic manufacturing services (EMS) providers, distributing electronic components from leading manufacturers and providing associated services.

For more information, contact customer.care@avnet.com.

RSC #54 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Xilinx® 2VP50 or 2VP70 FPGA
- CompactFlash programming card
- PICMG compatible board form factor
- 128 MB DDR SDRAM
- Expansion daughtercard
- User interface and display
- Mesh fabric example design
- MultiBERT test environment
- Optional elements include power supply, card cage, board level, and FPGA design services
- Supporting Intellectual Property cores and development software tools, and training on Virtex-II Pro™ are also available
- Xilinx® has a comprehensive ATCA™ site that is a good starting point for learning all things ATCA™
- Intel® also has a set of complimentary products that can be used to augment the Xilinx® AdvancedTCA™ Reference Design Kit from Avnet

Alliance Systems
3501 E. Plano Parkway
Plano, TX 75074
Tel: 972-633-3400 • Fax: 972-633-3499

A-14000 Powerful and Reliable ATCA Server

www.alliancesystems.com

With support for carrier-grade features such as NEBS, ETSI, and 5-nines availability, the A-14000 server provides a powerful ATCA-compliant platform for next-generation communications applications. This Intel® based server features superior performance, density, advanced I/O capacity, greater scalability, easier manageability, and high reliability required by telecom and networking applications including 3G wireless, IP telephony, broadband, and optical switching.

Incorporating the latest trends in high-speed interconnect technologies, compliant with the PICMG 3.0 specification, these servers can achieve levels of backplane interconnect bandwidth and flexibility previously not possible in standards-based products. And with 14 board slots, vertically mounted in a 14U enclosure, the A-14000 boasts the highest peripheral computing density available today in the ATCA arena. Designed to meet all NEBS requirements, the A-14000 addresses thermal management, shelf management, and serviceability issues with high-availability features including redundant power and management modules, hot-swappable switches and CPU boards, and redundant Gigabit Ethernet switches.

Through the modular, standards-based approach inherent in ATCA, Alliance is able to deliver next-generation communications solutions efficiently and economically to meet customer demand. The move to ATCA-based solutions offers significant total cost of ownership savings including lower cost of inventory and startup, lower deployment costs, as well as lower training and maintenance costs due to the standardization of system configurations. Utilizing the higher levels of processing and computing power, capital investments can be reduced by combining various communications functions onto a single platform.

FEATURES:

- Up to 12 single or dual XeonTM ATCA compute boards with up to 4 GB ECC Registered DDR RAM
- Onboard 30 GB high duty 2.5-inch hard drive
- 14U 17.44-inch rack-mount server
- 14-slot fully-passive ATCA-compliant backplane with dual-dual star routing topology
- Six 120 mm fans
- ATCA front air management blade
- Redundant -48 Vdc power
- Up to two 16-port ZNYX PICMG 3.0 Gigabit Ethernet base fabric switches with 10/100/1000Base-T Ethernet
- Monta Vista Carrier Grade Edition 3.0 and Windows 2000 Server
- Covered by two-year warranty with optional extended warranties and technical support upgrade plans

For more information, contact sales@alliancesystems.com.

RSC #55 @www.compactpci-systems.com/catalogrsc

American Portwell Technology Inc.
6851 Mowry Avenue
Newark, CA 94560
Tel: 510-790-9192 • Fax: 510-790-9191

American Portwell Technology

AdvancedTCA Computing Node Card, TANC-5260

www.portwell.com

As one of the most important hardware platform providers in the world, Portwell has successfully developed and marketed our first AdvancedTCA computing node card, TANC-5260, the best alternative in building an ATCA system.

The TANC-5260 is based on the Intel® E7501 chipset. The combination of dual Intel® Xeon™ processors, optimized Intel® NetBurst™ microarchitecture, and Hyper-Threading technology creates a balanced platform with unparalleled computing power and maximized networking bandwidth. On the front panel are six 64-bit Gigabit Ethernet ports, among which two are Small Form-factor Pluggable (SFP) type for different fiber-optical connections per request and four are RJ-45. Another two Gigabit Ethernet ports on the rear Zone-1 connector provide a 2G-bandwidth for data exchange through backplane interconnections (base channel). In addition, a PMC interface with PMC modules/devices for customized expansion is available on the TANC-5260.

Other than the extraordinary performance, the TANC-5260 boasts on its reliability and stability. The built-in Intelligent Platform Management Controller (IPMC) on the dual Intelligent Platform Management Buses (IPMB) monitors, controls, and performs diagnostic functions. It's not only IPMI v1.5 compliant but also UL, CE/FCC, NEBS, and ETSI approved, offering enhanced operation stability and improved system reliability.

TANC-5260 provides a Zone-3 connector to connect with PICMG 3.0-compliant Rear Transition Module (RTM). The version of RTM with VGA, PS2, 80-port, and serial port interfaces for programming and debugging is available upon request.

FEATURES:

- Dual Intel® LV Xeon™ processors up to 2.4 GHz
- Up to 4 Gbytes DDR memory
- One 64-bit PMC interface through independent PCI-X channel
- Eight gigabit Ethernet interfaces based on the Intel 82546EB
- Four copper/RJ-45 connectors on the front panel
- Two SFP sockets for SFP modules on the front panel
- Two gigabit Ethernet ports on the rear Zone-1 connector for backplane interconnection
- Built-in CompactFlash socket for Type-I CF card
- One RJ-45 system console
- Zone 3 connector for connection with Rear Transition Module (RTM)
- Dual USB ports for ease of system maintenance

For more information, contact joanne@mail.portwell.com.

RSC #56 @www.compactpci-systems.com/catalogrsc

Pinnacle Data Systems, Inc.
6600 Port Road
Groveport, OH 43125
Tel: 800-882-8282 • Fax: 614-748-1209

TS2100 AdvancedTCA® System

www.pinnacle.com

The Pinnacle Data Systems, Inc. AdvancedTCA® platform with its advanced software infrastructure is capable of custom configuration, including a wide range of applications necessary for use such as real-time communications services, optical transport, IP routers, wireless base stations, voice gateways, DSLAMs, softswitches, and server farms.

The TS2100 is a rugged, NEBS® compliant, AdvancedTCA® enclosure designed to provide a highly configurable and scalable platform for deployment in carrier-grade environments. The TS2100 can be pre-configured with up to 12 single board computers and two Gigabit Ethernet switches. The dual redundant chassis management modules provide alarm and shelf control. Each platform can be integrated and tested using either the Sun® Solaris® 9 and 10, x86, MontaVista® Carrier-Grade Linux® 3.0, or Red-Hat Linux® Enterprise Edition 3.0 operating system. Turnkey system integration is also available with Pinnacle's AdvancedTCA® Integration Program.

The Chassis Management Module (CMM) monitors chassis resources and environmental conditions. It provides instrumentation for health metrics and alerts when the management module detects an out-of-range condition, such as low voltage or high temperature. It identifies the chassis components to be monitored and utilizes the Intelligent Platform Management Interface (IPMI) standard, via an innovative hybrid dual-star management topology, to gather and report metrics for specific modules or boards within the chassis.

Pinnacle leverages currently available COTS hardware and software components to create integrated product sets specifically tailored to Telecommunications OEMs. These product offerings enable consolidation of proprietary network components into a single, open-standard platform, lowering the total cost of ownership.

FEATURES:

- Processor: 2.0-GHz, low voltage, Xeon® processor; one- or two-way configuration; L2 Cache with integrated 512-KB
- Memory: Four DIMM sockets for up to 4-GB DDR266, registered, SDRAM, 72-bit, ECC, 184-pin 256-MB, 512-MB, 1-GB, 2-GB
- Front panel I/O:
  – USB 1x USB 2.0 port
  – Serial 1x RJ-45 port
  – Fibre 2x small-form-factor pluggable connections
- LEDs for status, health, hard drive activity, and Ethernet/ Fibre Channel connections
- Switch connections:
  – Backplane 12 x 10/100/1000 Mbps Ethernet
  – Front Egress: 3 x 10/100/1000 Mbps Ethernet
- InterSwitch link: 1 x 10/100/1000 Mbps Ethernet
- Chassis:
  – Height 13U – 22.75" (577.85mm)
  – Depth 18.00" (508mm)
  – Width 19.00" (482.60mm)
  – 4x fans, cable management, filter
- System power:
  – 1x power distribution board
  – Support for up to 4x –48v DC power entry modules (PEMs)
- Backplane:
  – 14-slot full mesh
  – 12x system slot
  – 2x switch slot

For more information, contact info@pinnacle.com.

RSC #57 @www.compactpci-systems.com/catalogrsc

Diversified Technology, Inc.

476 Highland Colony Parkway
Ridgeland, MS 39157
Tel: 800-443-2667 • Fax: 601-898-4185

Targa-5

www.dtims.com

The Targa-5 system is a five-slot chassis with integrated shelf management and standard array of DTI AdvancedTCA® board products. The Targa-5 implements a single, high-availability system architecture across all hardware and software layers for use in a development or deployment environment. This enables typical equipment manufacturers to efficiently execute a wide variety of communication applications and network elements, whether they be server-type or control and data-plane architectures in the access and edge networks of the wireline and wireless infrastructure.

FEATURES:

- Five-slot AdvancedTCA communication solution
- Single/dual Intel® Xeon processor-based node blades with speeds up to 2.8GHz and 1MB L2 cache
- Separate data/control transfer accomplished via hub switch blade
- MontaVista Linux Carrier Grade Edition (CGE) BSP for CPU node blades
- Single management card solution (second is optional)
- Replicated full mesh chassis

For more information, contact sales@dtims.com.

RSC #5801 @www.compactpci-systems.com/catalogrsc

Kaparel Corporation, A Rittal Company

97 Randall Drive
Waterloo, ON N2V 1C5 Canada
Tel: 519-725-0101 • Fax: 519-725-0414

AdvancedTCA Shelf

www.kaparel.com

The redundant brushed stainless steel Rittal/Kaparel AdvancedTCA® Shelf is Central Office ready and complies with the PICMG 3.0 specification. The Shelf consists of an integrated sub-rack, four patented RiCool-2 Blowers cooling 200 watts/slot, air filter, power entry module, system management functions, and cable management system.

Offered in 12U and 13U 14-Slot 19" and 16-Slot ETSI versions, the rack-mounted models include a Rittal/Kaparel Full Mesh or Dual Star backplane and can be modified to fit custom needs. The Shelf accommodates Intel, Motorola, or Pigeon Point Shelf Management Controllers. The Shelf accepts 14-8U x 6HP x 280mm boards and 14-8U x 6HP x 70mm rear transition modules.

FEATURES:

- Central Office-ready 19" and ETSI rack-mount units
- Stainless steel construction provides excellent corrosion resistance
- Available with Full Mesh or Dual Star backplane topology
- Configurable for both radial and bussed IPMI topology
- Four RiCool-2 Blowers provide 180 cfm each
- Full range of faceplates, filler/air management panels, and handles available

For more information, contact info@kaparel.com.

RSC #5802 @www.compactpci-systems.com/catalogrsc

PCI EXPRESS®

INTRODUCING

MAX EXPRESS™

THE FUTURE of Industrial Computing

PCI Express™ application-ready platforms
from the leading provider of integrated platform solutions.

www.onestopsystems.com

MaxExpress Passive Backplane
:: Up to 15 times faster than 64bit/133MHz PCI-X bus
:: 19-slot or split backplane configurations
:: Dual 64-bit Intel Xeon™ Single Board Computer
:: 1U to 5U rugged rack-mount server configurations
:: Optional system monitoring

MaxExpress Rugged MB Servers
:: Single P4 or dual Xeon™ processors at 3.6 GHz
:: PCI Express™ x16 backplane speeds at 8GB/s
:: Integrated Gigabit Ethernet, SATA RAID & Baseboard Management Controller
:: High density integrated 9 drive storage
:: Ruggedized 1U & 3U rack-mount servers

MaxExpress I/O Expansion Chassis
:: PCI Express™ x4 cable speeds at 2GB/s
:: Up to 150 I/O boards using a single host
:: 19 I/O boards per 4U enclosure
:: 5m cable length
:: Pure PCI Express™ I/O or combination of PCI Express™ and PCI/PCI-X

MaxExpress CPCIe Blade Servers
:: Up to 30 times faster than 64-bit/66MHz CPCI bus
:: Available in 3U and 6U form factors
:: Mobile & Xeon™ processor single board computers
:: 3U & 6U switches with up to 4GB/s bandwidth
:: Upgrade path for CPCI & PXI architectures
:: Optional system monitoring

ISO 9001 : 2000 PICMG PCI SIG PCI EXPRESS

ONE STOP SYSTEMS

Corporate Headquarters
735 South Vinewood Street
Escondido, CA 92029
Tel (760) 745-9883
Fax (760) 745-9824
www.onestopsystems.com

Get your MaxExpress™ Roadmap today. Call **(877) 438-2724**

RSC# 59 @www.compactpci-systems.com/rsc

APW Electronic Solutions
14100 Danielson Street
Poway, CA 92064
Tel: 800-854-7086 • Fax: 858-679-4555

Ventus AdvancedTCA 014/016 Shelf

www.apw.com/elsol

APW Electronic Solutions' 014 and 016 slot AdvancedTCA Shelves are perfect for fault tolerant/high availability applications. These Shelves, designed for use in 19" or 23" rack mount applications, occupy a mere 12U of rack height, allowing three units to be mounted in a standard rack! Airflow is optimized for efficient cooling from precisely molded air entry to APW's Patented Hybrid Serial Parallel Cooling Scheme and low impedance exhaust. The Shelves tolerate in excess of 200W/slot power dissipation typical of AdvancedTCA plug-in modules and do so with low noise due to speed controlled, IPMI-based, hot pluggable fan trays.

Redundant power entry modules protect and filter over the potential 3200W that plug-in modules may dissipate. The IPM enabled PEMs plug directly into the AdvancedTCA midplane and deliver power in four isolated segments extending fault isolation.

Pigeon Point's IPM Sentry is the heart of APW Electronic Solutions' Shelf Management. Each ATCA slot, as well as fan trays and PEMs, communicate to each Shelf Management module via dual bus IPMBs as specified by ATCA.

Standard midplanes are Dual Star. Options for Dual-Dual, full mesh, replicated meshes, as well as customer specified midplanes are available. Midplanes are the central nervous system of the chassis, providing communication paths, not only for plug-in boards, but also for direct interfaces for PEMs and Shelf Management modules.

When integrating your next high-performance, switch-fabric telecommunications system, pick the chassis with fault tolerant cooling, power distribution, and Systems Management capability: APW Electronic Solutions' AdvancedTCA Shelf.

FEATURES:

- Backplane with dual star base and fabric design using standard technology FR-4 material
- Backplane testing shows excellent performance at 3.125Gb/s with margin up to 4Gb/s
- 2800W (14 slot) and 3200W (16slot) ATCA load capacity
- Pluggable IPMI enabled power entry modules for low MTTR and ease of maintenance
- The Shelf is operational up to 55°C with a single fan fault
- The heart of the Shelf management is based on Pigeon Point Systems IPM Sentry
- Dual IPMB architecture provides redundancy in the Shelf management communication
- Earthquake shock vibration – tested to NEBS GR-63 4.4.1 Zone 4 earthquake environment
- Acoustics – tested to NEBS GR-63 4.6 acoustic noise
- Pluggable IPMI enabled fan trays for low MTTR
- 14-slot Shelf utilizes a slot "0" for the redundant 4u Shelf Management Carrier (SMC) modules
- A customizable decorative upper front cover can be utilized for slot numbering and company logo

For more information, contact sales.elsol@apw.com.

RSC #60 @www.compactpci-systems.com/catalogrsc

ADVANCED TCA DESIGN VERIFICATION & OPTIMIZATION

ARE YOU PREPARED FOR THE NEXT STEP? WE CAN HELP.

Verify the Thermal and Power Characteristics of Your Entire ATCA Design

ThermalBlade

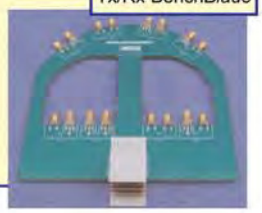
- Test air flow, power load and thermal performance of your chassis, logic cards and backplane in the lab and during manufacturing
- User switchable load choices for thermal and power analysis
- Nine on-card thermal measurement points (ThermalBlade) and five on-card measurement points (RTM ThermalBlade)
- ThermalBlade provides 200W @48VDC per slot over -36 to -72 VDC
- RTM ThermalBlade offers 50W @48VDC per slot over -36 to -72 VDC

RTM ThermalBlade

Eliminate the Dependency on Logic Cards and Backplanes to Analyze Your Design

Tx/Rx SignalBlade

- Verify and evaluate design compliance with Advanced TCA guidelines
- Sample SERDES signals from node and line cards (SignalBlade) and across backplane (BenchBlade)
- Access signals to evaluate bus termination and skew
- Probe, observe and measure eye-openings
- Investigate alternatives for optimized designs
- Flexible connector alignment allows all signals to be easily probed



Tx/Rx BenchBlade

Fulcrum9, Inc.

AdvancedTCA®

+1 781.248.9155 | www.FULCRUM9.com | fulcrum9inc@verizon.net

Schroff®

170 Commerce Drive
Warwick, RI 02886
Tel: 800-451-8755 • Fax: 401-738-7988

Deployment Ready AdvancedTCA Systems

www.a-tca.com

Schroff first to introduce complete range of deployment ready AdvancedTCA systems

Schroff® offers the first complete family of deployment ready AdvancedTCA® systems, from cost effective 2-slot and 5-slot configurations to 16-slot high performance systems.

The Schroff AdvancedTCA platform is designed to provide the broadest range of configuration options available to meet enterprise, networking, and carrier grade requirements in wireless IP, telephony, security, and optical switch applications. Customers can select options such as full mesh dual star and dual-dual star backplane topologies, fully tested to 3.25GHz. Other options include 48 VDC or AC inputs, bussed or radial IPMB configurations, and the shelf management solution to meet your application requirements.

Schroff AdvancedTCA chassis are designed to meet all NEBS requirements and address a broad range of thermal management, shelf management, and serviceability issues. With an eye on long-term cost, the 14 and 16-slot configurations are designed with interchangeable, cost effective Field Replaceable Units (FRUs) to reduce the cost of servicing equipment in the field.

FEATURES:

- 2 to 16-slot AdvancedTCA systems ideal for telecom and networking applications
- Broad range of configuration options available
- Backplane available in a variety of topologies including full mesh, dual star, and dual-dual star
- Backplanes meet high-speed requirements of next-generation boards
- Low cost, field replaceable fan trays reduce labor and maintenance costs
- Removable fan trays provide exceptional cooling up to 200 watts +

For more information, contact gross@pentair-ep.com.

RSC #62 @www.compactpci-systems.com/catalogrsc

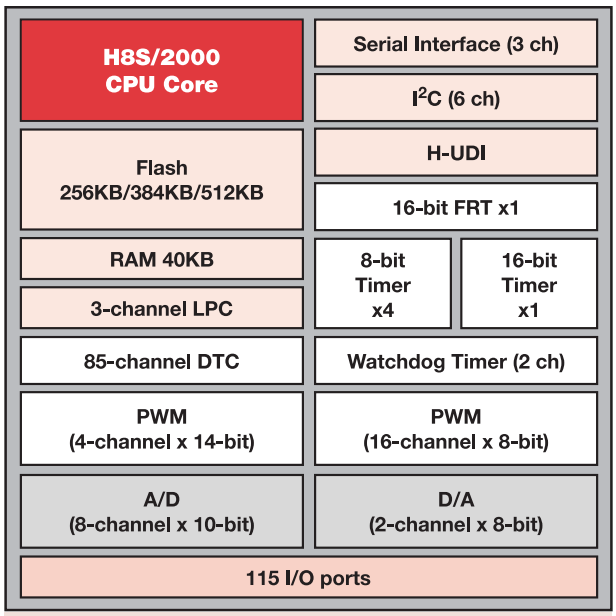
Renesas Technology
450 Holger Way
San Jose, CA 95134
Tel: 408-382-7500 • Fax: 408-382-7501

RENESAS
Everywhere you imagine

H8S/2168 Series IPMI Microcontrollers

www.renesas.com

Renesas' H8S/2168 series microcontrollers (MCUs) are widely acknowledged to be the best design choices for implementing IPMI-compliant solutions in server and telecommunication applications. The popular devices provide a wide variety of on-chip peripherals, including six independent multi-master or slave I2C bus controllers, ensuring complete coverage of the IPMI requirements. On-chip single-cycle Flash and SRAM memory, in combination with low-power 3.3V operation and three Flash memory size options, enable high-performance and low-cost IPMI solutions. All major suppliers of IPMI firmware for ATCA applications support proven H8S/2168 series microcontrollers.



FEATURES:

- High performance with low power; typical dissipation is 60mW operating at 33MHz and 3.3V
- Pin-compatible versions with 256KB, 384KB, or 512KB of on-chip, single-cycle-access Flash enable design flexibility
- On-chip 40KB single-cycle-access SRAM enables optimum performance
- Six independent 400kHz I²C (multi-master/slave) bus controllers can automatically generate start/stop conditions
- Three low-pin-count channels support I/O read/write mode and have independently programmable 16-bit addresses
- LPC Channel 3 has independent 64-byte transmit and receive buffers and supports KCS, BT, and SMIC modes
- Three channels of async or synchronous serial communication controllers, each with built-in baud rate generators
- Eight channels of 10-bit A/D and two channels of 8-bit D/A enable monitoring and controlling of system variables
- Two watchdog timers and 8, 14, and 16-bit general-purpose timers permit control of time-critical of system functions
- External 16-bit bus expansion can be used to access or interface to off-chip memory or peripheral functions
- Built-in, high-level User Debug Interface (UDI) eases system debugging and integration in complex systems
- JTAG boundary scan capability facilitates testing for high reliability

For more information, contact webmaster.america@renesas.com.

RSC #63 @www.compactpci-systems.com/catalogrsc

Avnet Electronics Marketing
2211 S. 47th St.
Phoenix, AZ 85034
Tel: 800-332-8638

Xilinx® AdvancedTCA™ Reference Design Kit

em.avnet.com

Xilinx® and Avnet Electronics Marketing have released a new design kit that reduces time-to-market and costs for a wide range of serial backplane applications. The new Advanced Telecom Compute Architecture (ATCA™) PICMG™ 3.0 specification creates a flexible, industry-standard platform that lets you cut-and-paste previously complex and expensive high-speed serial portions of your design.

The ATCA PICMG 3.0 Design Kit can be used as a development platform for PICMG 3.0 full-mesh line cards supporting system configurations of up to 16-cards and port rates up to 3.125 Gbps. The heart of the reference design is the Virtex-II Pro™ device with RocketIO™ Multi-Gigabit Transceivers (MGT), serving as the interface to the full-mesh backplane. The full-mesh card also allows application flexibility by reserving an area of the board for a plug-in "personality module" (PM). You can use the PM to implement any application-specific line card and easily connect to the full-mesh card through the included headers.

All documentation and design files for the Full Mesh Fabric Example Design are included with the purchase of a Design Kit, including ingress and egress datapath blocks, serial link interface blocks utilizing RocketIO MGTs, and a management interface block for control plane access to internal control and status registers.

For a limited time, Avnet Electronics Marketing is offering a $500 discount on the 2VP50 ATCA PICMG Design Kit. This kit, which typically retails for $4,999, is available for $4,499. Visit our website to purchase a discounted kit today.

About Avnet Electronics Marketing
Avnet Electronics Marketing serves electronic original equipment manufacturers (EOEMs) and electronic manufacturing services (EMS) providers, distributing electronic components from leading manufacturers and providing associated services.

For more information, contact customer.care@avnet.com.

RSC #64 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Xilinx® 2VP50 or 2VP70 FPGA
- CompactFlash programming card
- PICMG compatible board form factor
- 128 MB DDR SDRAM
- Expansion daughtercard
- User interface and display
- Mesh fabric example design
- MultiBERT test environment
- Optional elements include power supply, card cage, board level, and FPGA design services
- Supporting Intellectual Property cores and development software tools, and training on Virtex-II Pro™ are also available
- Xilinx® has a comprehensive ATCA™ site that is a good starting point for learning all things ATCA™
- Intel® also has a set of complimentary products that can be used to augment the Xilinx® AdvancedTCA™ Reference Design Kit from Avnet

Carlo Gavazzi Computing Solutions

10 Mupac Drive
Brockton , MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

686 ATCA Development System

www.gavazzi-computing.com

The 686 Series AdvancedTCA Development System comes with shelf management and an optional AC input power, making it an ideal platform for the development of ATCA boards and platforms.

The 686 Series is available with six-slot dual star and full mesh backplanes, supporting PICMG 3.1, 3.2, 3.3, and 3.4 specifications. The platform's ATCA-compliant Shelf Management System (ShMS™) plugs directly into the Zone 1 connector of the backplane and monitors and manages the ATCA system management interface. This system provides the user with the necessary shelf management hardware. An optional rear mounted AC power supply provides –48VDC A&B and eliminates the need for an external –48VDC converter.

For more information, contact gavazzi@mupac.com.

RSC #6501 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Available with six-slot dual star and full mesh backplanes
- An ATCA-compliant ShMS plugs directly into the Zone 1 connector and manages the ATCA system management interface
- Optional rear mounted AC power supply provides –48VDC A&B
- Supports PICMG 3.1, 3.2, 3.3, and 3.4 specs

Systems
CompactPCI® and AdvancedTCA® Systems Resource Guide

Diversified Technology, Inc.

476 Highland Colony Parkway
Ridgeland, MS 39157
Tel: 800-443-2667 • Fax: 601-898-4185

Targa-14

www.dtims.com

The Targa-14 system is a fourteen-slot chassis, with integrated shelf management and standard array of DTI AdvancedTCA® board products. It enables typical equipment manufacturers to efficiently execute a wide variety of communication applications and network elements, whether they be server-type or control and data-plane architectures in the access and edge networks of the wireline and wireless infrastructure. With the Targa-14, cost savings and reduced total cost of ownership can be realized on multiple levels ranging from more efficient design, harmonized logistics, and less training due to cost savings in volume deployment and respective lower unit pricing for high-end computing.

For more information, contact sales@dtims.com.

RSC #6502 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 14-slot AdvancedTCA communication solution for service providers and high-speed data network applications
- Single/dual Intel® Xeon processor-based node blades with speeds up to 2.8GHz and 1MB L2 cache
- Separate data/control transfer accomplished via hub switch blades
- MontaVista Linux Carrier Grade Edition (CGE) BSP for CPU node blades
- Redundant management in either radial or bussed modes
- Dual star and full mesh backplanes

Continuous Computing
9380 Carroll Park Drive
San Diego, CA 92121
Tel: 1-858-882-8800 • Fax: 1-858-777-3388

Continuous Computing
Create | Deploy | Converge

AdvancedTCA Product Family

www.ccpu.com

Targeting the application needs of next-generation telecom markets and leveraging the latest SA Forum interfaces, Continuous Computing's AdvancedTCA product line delivers a fully integrated, custom configured platform solution for carrier-grade wireless and voice-over-packet applications.

All building blocks of Continuous Computing's family of ATCA products are designed to bring together a common set of platform-level features enabling delivery of a wide range of infrastructure applications including softswitches, media gateways, signaling gateways, HLRs, SCPs, SGSNs, and GGSNs.

The common feature set includes:

- PICMG 3.0 and 3.1-compliant Gigabit Ethernet base and fabric switching
- Fibre Channel fabric switching for high-speed and high-capacity storage access
- 10 Gigabit Ethernet uplinks for scalability
- TDM transport over IP for voice and media switching
- Full range of local and shared storage options
- Intel and PowerPC SBC products
- High-density DSP blades for media processing
- PMC/PTMC and AMC slots for flexible expansion options like DSP, storage, network processing and line termination (T1/E1 and OC-3/STM-1)
- Carrier Grade Linux support
- Value-add innovative system management services to ease OA&M of the platform

Designed for interoperability and offered in a wide variety of scalable configurations, the ATCA product line combines packet-based, redundant architecture design with NEBS Level 3 engineering.

Coupled with the company's Trillium® protocol software and upSuite® platform management, Continuous Computing's ATCA products form the ideal building blocks for custom configured network infrastructure platforms.

ATCA solutions from Continuous Computing represent the fastest path from application development to deployment revenue.

For more information, contact info@ccpu.com.

FEATURES:

- A wide range of processing, I/O and storage blades provides the ability to meet scalability and price requirements
- Hardware reliability is maximized with redundant management controllers, fan trays, and power input modules
- Communication reliability is maximized with redundant base, fabric, storage and management interfaces
- ATCA solutions support high availability performance when coupled with fault-tolerant Trillium® protocol software
- COREblade™ FM10: Switching and OA&M w/GigE base switching, GigE and FC fabric switching, and Pentium M host processing
- LINUXblade™ XE20: High-performance SBC featuring Intel dual LV Xeon™ processing
- LINUXblade™ PPC20: High-performance SBC with IBM dual PowerPC 970FX processing
- PACKETblade™ BC10: High-performance media blade leveraging digital signal processing and Intel network processing
- IOblade™ PMC40: Expansion and processing with Gigabit Ethernet switching and Intel Pentium M processing
- FlexStore™: AMC and shared Fibre Channel storage options
- Deployment: NEBS-compliant 5U or 12U chassis options
- DSPblade™ TI320: Advanced DSP and packet processing
- SWITCHblade™ PMC40-SW: 24-port Gigabit Ethernet switch

RSC #66 @www.compactpci-systems.com/catalogrsc

Elma Electronic
44350 Grimmer Blvd.
Fremont, CA 94536
Tel: 510-656-3400 • Fax: 510-656-3783

ELMA
Your Solution Partner

AdvancedTCA 12U System

www.elma.com

The new 12U ATCA is fully redundant from top to bottom. Three plug removable fan trays offer a total of six high volumetric 130CFM fans, three in the top/rear and three below the card cage. This includes coverage of the rear I/O card cage and the top fans are angled slightly to direct exhaust out. The rear top of the chassis is also angled, allowing more airflow exhaust to escape when multiple chassis are stacked on top of each other in a rack.

With Elma's thermal simulation engineering, the chassis has been optimized for maximized cooling capability. The simulation enabled the company to perfect the ideal intake and exhaust areas, determine the best fans and fan configuration, and optimize the air baffles to redirect airflow. Moreover, Elma can make further adjustments after simulating the chassis along with system cooling for a specific application. Testing performed on the Elma 12U chassis verifies the chassis meets the 200 W/slot cooling required for ATCA.

With "pluggability and redundancy everywhere," the 12U ATCA offers dual Power Entry Modules (PEMs), dual shelf management modules, dual fabric slots, and more. The PEMs allow pluggable 48 DC feeds with I2C shelf manager interfacing. They can handle 100A per module. The optional IPM Sentry Shelf Managers come in dual redundant pluggable units, which are located below the bottom fan tray and are recessed.

The chassis features a special 7U ATCA backplane inside with a 14-slot Dual Star topology. It has headers below the card cage area for pluggable fan trays, shelf managers, power entry modules, and so on. Compliant to the PICMG 3.0 specifications, the 12U ATCA chassis also has rear I/O options.

FEATURES:

- 19" rack mount, fully compliant to PICMG 3.0
- 12U x 444mm x 385mm (H x W x D)
- NEBS ready, STP-compliant construction
- 14-slot Dual Star backplane, 2HMB, 12 node slots
- Cooling front to rear
- 200 watts per slot (30 watts per slot, rear I/O)
- 3 x plug removable dual fan trays below cards
- 3 x plug removable single fan trays above cards
- Dual 48VDC input PEMs (100 amps)
- Dual plug removable shelf managers
- 500 LFM per slot (40 CFM)
- 15°C maximum temperature rise

For more information, contact sales@elma.com.

RSC #67 @www.compactpci-systems.com/catalogrsc

Embedded Communications Computing
2900 S. Diablo Way
Tempe, AZ 85282
Tel: 800-759-1107 • Fax: 602-438-3195

MOTOROLA

AdvancedTCA Application-Enabling Platforms

www.motorola.com/computing

Designed to meet the needs of the communications market, the AdvancedTCA® specification addresses a wide range of applications requiring reliability, maintenance, and performance.

The Motorola Centellis™ CO 31KX AdvancedTCA platform can be used to achieve high density at the rack level, to support front maintenance and rear cabling requirements for the central office, and to address central office-driven environmental needs.

The Centellis CO 31KX integrates chassis, cooling, power distribution, shelf management, and managed networks into an off-the-shelf platform solution to which you can add your service-related hardware and software. With architecture designed for 5NINES availability, the Centellis CO 31KX AdvancedTCA platform minimizes both planned and unplanned downtime and provides continuous service during fault recovery.

The Motorola EndurX™ CO 31KX advanced integrated platform offers an even more highly integrated solution based on high-performance CPUs, resource management software and services that provide a plug-and-play platform for software designers. Whichever integration level is selected, faster time to market is the key benefit of these well tested, pre-integrated system platforms.

FEATURES:

- AdvancedTCA shelf delivers 5NINES availability into central office environments
- 13U/19" chassis with 14 vertical blade slots
- Front maintenance and rear cabling
- Fault-resilient design to minimize hardware induced failures
- AdvancedTCA hot swap-based maintenance of the running system
- Integrated shelf management for electronic keying, thermal management, and network-based remote access
- PICMG 3.0-compliant packet switching backplanes in different topologies
- Gigabit Ethernet switches for non-blocking base channel and fabric channel switching
- Automated resource management for continuous availability (EndurX only)
- Application services to support service availability (EndurX only)

For more information, contact inquiry@mcg.mot.com.

RSC #68 @www.compactpci-systems.com/catalogrsc

ESO Technologies
2 route de la Noue
Gif sur Yvette, 91193 FR
Tel: +33-1-64-86-82-52 • Fax: 33-1-64-86-18-19

HA Computing Platform Design & Integration

www.eso-tech.com

HA computing platform design & integration services
ESO delivers to OEMs High Availability (HA) computing platform design and integration services. ESO platforms are tailored for fast and easy integration of mission critical infrastructure applications providing service continuity.

By working with ESO, OEMs get:
– Optimized performance
– Reduced development cost and time
– Perfect fit to project requirements
– Responsive and close support (ESO is based in Europe)

HA modular computing technologies expertise
On top of high expertise in HA and System management design, ESO brings advanced knowledge in new modular standards-based HA computing technologies:

– Service Availability Forum (SAF) software interfaces
– AdvancedTCA® carrier grade hardware
– Carrier Grade Linux (CGL)
– Intel® processor-based architecture (ESO Technologies is a general member of the Intel® Communications Alliance and a PICMG associate member)
+ Ensures the best system performance

ATCA integration tools for reliable and fast developments
ESO uses a proprietary, ATCA-dedicated, system-integration software tool suite, which automates:

– Building-blocks compatibility check
– Building-blocks configuration
– Platform defaults simulation for checking application behavior
+ Fast and reliable multi-vendor building-blocks integration process

Architecture flexibility for perfect fit solutions
By implementing platforms over HPI (SAF) compliant hardware, ESO provides the freedom to select and adapt the hardware platform at each project. ESO is also capable in handling custom requirements for projects involving only a few units.

+ Best fit to project performance and cost requirements

For more information, contact rpelissier@eso-tech.com.

RSC #69 @www.compactpci-systems.com/catalogrsc

AdvancedTCA®

FEATURES:

- Training (software and hardware)
  - System standards (PICMG xx)
  - System management (IPMI, HPI, SNMP)
- Specification support from application needs, ESO specifies system
  - Modules
  - Performance
  - Scalability
- Architecture consultancy:
  - Top-down approach for specifying module functions and interfaces
  - Modules selection
- Building blocks tests
  - Interoperability tests (firmware & software level)
  - Compatibility vs. standards
- Application & system design fit
  - Analysis for efficient use of system mechanisms and APIs
  - Optimum design
- Software module development
  - Defined within the scope of ESO platform technologies
- Single point of failure evaluation
  - Hardware & software review
  - Architectural & design changes recommendation
- Performance evaluation
  - Architecture
  - Metrics & performance figures
  - Bottlenecks & corrective actions
- Fail-over time estimation
  - Application/system fail-over mechanisms analysis
  - Duration estimation
- Fast system prototyping
  - Specification and limitations vs. final product
  - Integration, test, and delivery
- System behavior in case of modules defect
  - Hardware/software defects simulated
  - System & application behavior
- Software mastering & configuration tools
  - Master disk
  - Deployment via network
  - Multi-system configuration

Optovia
100 Nagog Park
Acton, MA 01720
Tel: 978-266-2830 • Fax: 978-266-2835

C4000 Managed Shelf

www.optovia.com

The C4000 is a fully managed generic shelf designed for rapid integration and deployment of modular transport equipment. It is carrier grade in all respects and compliant with NEBS and ETSI office practices. Critical design elements such as full support for front access maintenance procedures and 300mm rack depth ensure fast deployment of ATCA transport applications worldwide.

The 4U shelf provides five application slots. The redundant telco grade shelf processors are supported in separate slots opening the application slots for any functionality with a fully compliant PICMG 3.0 backplane. Redundant smart FRU fans deliver maximum availability and cooling capability in any telco environment. The PEM units support up to 15A/750W power consumption for even the most demanding applications.

The EMS supports autonomous OAM&P functionality. For craft personnel, the shelf is equipped with a remote or local TL-1 CLI over Telnet or RS-232. The USB port can be used for local software download and backup, performance monitor record download, and optional Orderwire headset connection. The C4000 shelf can be cascaded in service with up to three shelves managed as a single network element.

With HTTP, TL-1, and SNMP protocol interfaces, the C4000 ensures maximum flexibility for your customers. Three 10/100Base-T Ethernet ports for local and DCN connectivity along with user configurable parallel telemetry I/O complete the telco grade design.

The C4000 is compliant to Telcordia NEBS Level 3, ETS 300-019, GR-1089-CORE, ETS 300 386, UL/CSA EN60950, and CB-TUV. For ATCA blade developers, the C4000 offers the fastest means to expand your market into ETSI office practices. For sub-system customers, Optovia's generic blade platform offers the most flexible ATCA-based front board solution enabling you to quickly add ATCA products to your overall portfolio.

FEATURES:

- Complete carrier-grade solution
- PICMG 3.0-compliant backplane
- NEBS and ETSI-compliant, front-to-back footprint
- Front access for all maintenance activity
- Redundant hot swappable shelf controllers
- Redundant hot swappable PEMs
- Redundant hot swappable fans
- Carrier-grade operating system
- Parallel telemetry capability
- Available with application adaptable generic front board
- Ethernet, RS-232/485 and USB ports
- Full telco-compliant LEDs and alarm points

For more information, contact contact@optovia.com.

RSC #70 @www.compactpci-systems.com/catalogrsc

RadiSys Corporation
5445 NE Dawson Creek Drive
Hillsboro, OR 97124
Tel: 503-615-1100 • Toll free: 800-950-0044 • Fax: 503-615-1121

RadiSys Promentum™ AdvancedTCA Family

www.radisys.com/atca/

The RadiSys Promentum™ family is a suite of carrier-grade platforms addressing blade server and network element applications, offering industry leading price/performance and unparalleled flexibility. RadiSys' system engineering and integration experience ensures customers a complete validated platform that can be confidently and quickly deployed in networking systems.

Promentum™ SYS-6000
The Promentum™ SYS-6000 is an application-ready, highly configurable, integrated Linux blade server for control and services plane applications. This common platform helps TEMs reduce costs, shorten development time, and realize economies of scale, and flexibility, from platform application reuse.

Integrated carrier-grade platform
With shelf, compute, and storage components, the Promentum SYS-6000's flexible architecture enables configurations that maximize price and performance for a variety of platform types, including HLR/VLR, application and media servers, Serving GPRS Support Node (SGSN), BRAS, and media gateways. The SYS-6000's multiple configurations – from dual Intel® Xeon™ to quad Intel® Pentium® II processors – gives TEMs the power for diverse computing needs.

Highly reliable system
The SYS-6000 provides the reliability and availability for Service Level Agreement-based solutions. The SYS-6000 also features hot-swappable redundant power supplies, fan trays, and built-in shelf management. The result is a NEBS-III compliant server platform optimized for next-generation networks.

One-stop sourcing
RadiSys provides a range of alternatives, from complete, integrated solutions to component building blocks, as well as application sub-systems and complete software-rich blades. This eliminates costly development time and resources needed to fully qualify multi-source building blocks for an AdvancedTCA platform.

FEATURES:

- Promentum™ SYS-6000: Platform with carrier-grade Linux, shelf management/HPI libraries, and HA blade/switch management
- Promentum™ ATCA-1000: Universal PMC Module, flexibility of PMCs in different configurations for multiple applications
- Promentum™ ATCA-2100: Switch/Control Module, GbE and Fibre Channel switch fabric for control, services, and management applications
- Promentum™ ATCA-3000: Disk Storage Module, providing high-performance Fibre Channel storage
- Promentum™ ATCA-4000: Compute Processing Module, high-performance processing through dual Intel® Xeon™ CPUs
- Promentum™ ATCA-6000: 12U chassis, industry-leading density enabling three chassis in a standard 42U telco rack

For more information, contact info@radisys.com.

RSC #71 @www.compactpci-systems.com/catalogrsc

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
Tel: 650-786-0614

Upcoming Netra™ AdvancedTCA Product Family

www.sun.com/netra

Upcoming Netra AdvancedTCA Platform

Sun's upcoming Netra AdvancedTCA® platform will offer a standards-compliant 12U/16-slot AdvancedTCA chassis with a dual star extended fabric backplane, providing dual-redundant Gigabit Ethernet switches, shelf management controllers, and DC power entry modules.

Processor and OS Choice

Sun's Netra AdvancedTCA platform will offer high-performance UltraSPARC and AMD Opteron dual-processor/core blades, supporting both Solaris and Carrier-Grade Linux Operating Systems within the same chassis.

Carrier-Grade Ruggedness

Sun's Netra AdvancedTCA platform will be NEBS Level 3 certified (not merely compliant) and ETSI-compliant, designed to deliver 99.999%-plus reliability while meeting the toughest environmental challenges of today's and tomorrow's central offices.

Standards-Compliant

Sun's Netra AdvancedTCA platform will support the latest PICMG 3.0 and SAF-HPI standards, providing component interoperability with standards-compliant, third-party AdvancedTCA hardware and software.

Telecom System Management

Sun's Netra AdvancedTCA platform will provide SAF-HPI-compliant telecom system management and high availability software, designed to reduce OA&M development costs and time to market while improving reliability, availability, and manageability.

OEM Ready

Sun's Netra AdvancedTCA products will be OEM ready, providing guaranteed product life cycle, advanced change notification, and extended availability programs as well as telecom-oriented service, support, integration, and consulting services.

FEATURES:

- 16-slot AdvancedTCA chassis
- 12U high, 600mm rack-optimized
- PICMG 3.0 and SAF-HPI-compliant
- NEBS Level 3 certified and ETSI-compliant
- High capacity (up to 2.5 terabits/sec) Dual Star extended fabric backplane
- Dual redundant Gigabit Ethernet switches, shelf management controllers, and DC power entry modules
- UltraSPARC and AMD Opteron dual processor/core blades
- SAF-HPI-compliant System Management and High Availability Software Suite
- Solaris and CG Linux operating system support

For more information, contact netrainfo@sun.com.

RSC #72 @www.compactpci-systems.com/catalogrsc

SBS Technologies
2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

TELUM 1000 AMC Modules for OC-3 ATM

www.sbs.com

The TELUM 1000 high-performance, single-wide, full-height, AMC.1-compliant ATM adapter features a front-I/O, full-duplex OC-3 interface. The TELUM 1000 uses the PCI Express bus to communicate with the host processor on an Advanced Telecom Computing Architecture (ATCA) system. The TELUM 1000 complies with ATM Forum UNI 3.1 and TM 4.0 and is based on an advanced ATM Segmentation and Reassembly (SAR) controller designed to optimize the PCI Express bus interface. The SAR segments and reassembles AAL0, AAL3/4, and AAL5 cells. It will manage and pass AAL1, AAL2, and raw cells. The TELUM 1000 supports one full-duplex OC-3 port for protocol data unit sizes as small as two cells. An optional Automatic Protection Switching (APS) port is available.

The traffic management coprocessor within the SAR supports Constant Bit Rate (CBR), Variable Bit Rate (VBR), Unspecific Bit Rate(UBR), Available Bit Rate (ABR), Guaranteed Frame Rate (GFR), and Generic Flow Control (GFC). To maximize line utilization, the xBR traffic management block automatically schedules each VCC according to user assigned parameters.

There is an Intelligent Platform Management Interface (IPMI) subsystem used to initialize board level parameters, monitor board voltage and temperature conditions, maintain system status, and manage hot-swap operation. A microcontroller is used as the IPMI intelligence and connects to the ATCA System Management bus and the local PCI Express bridge device. The TELUM 1000 is hot-swappable and field-replaceable.

Automatic Protection Switching (APS) initiation time requirements are supported as required in the Bellcore Standard GR-253-CORE. If a network failure condition is detected, this network port can be shut down and network termination switched to the second port. This function can be performed automatically.

FEATURES:

- 155 Mbps full duplex line speed
- PCI Express interface; PCI-e Rev 1.0 compliant; support for a full-duplex OC-3 Interface
- Support for 16,000 VCCs; 4 MB local memory
- Optional Automatic Protection Switching (APS)
- Passes and manages AAL1, AAL2, and raw cells
- Segmentation and reassembly of AAL0, AAL3/4, and AAL5 cells
- Traffic management supported: ABR, CBR, UBR, and VBR
- Single or APS port versions
- Supports ATM Forum UNI 3.1 and TM 4.0
- Intelligent Platform Management interface; onboard microcontroller-based subsystem
- Hot-swap compliant
- Support available for Linux, VxWorks®, and Windows® 2000/XP

For more information, contact info@sbs.com.

RSC #73 @www.compactpci-systems.com/catalogrsc

APW Electronic Solutions
14100 Danielson Street
Poway, CA 92064
Tel: 800-854-7086 • Fax: 858-679-4555

Thermal Management

www.apw.com/elsol

APW Electronic Solutions offers AdvancedTCA thermal management products for AdvancedTCA shelves. These products baffle airflow through the shelves and restrict airflow through empty slots, forcing air to flow in slots that have active cards.

These thermal management products include front and rear transition module filler panels, air management plug-in modules, and Zone 3 close-out panels. The front and rear transition modules include gasketing for EMI/RFI shielding.

FEATURES:

- 8U x 6HP x 280mm or 70mm depth
- Extruded and sheet metal aluminum versions available
- Includes EMI/RFI shielding mesh gasket with minimal compression set
- Optional beryllium copper gasket available
- Dual alignment pins and knurled screws included
- PICMG 3.0 compliant

For more information, contact sales.elsol@apw.com.

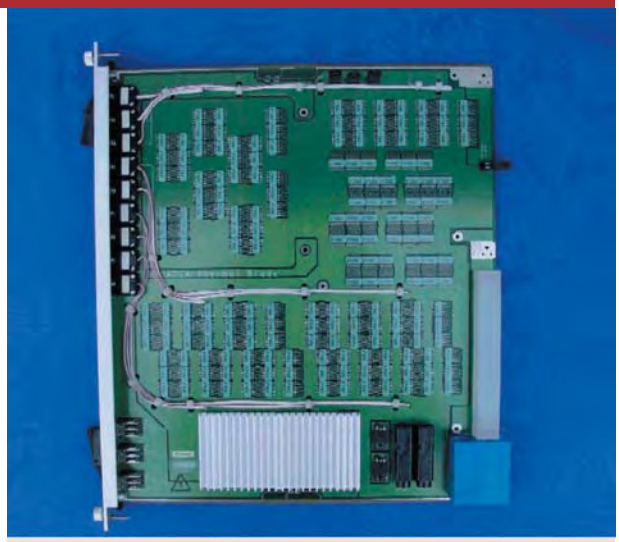
RSC #74 @www.compactpci-systems.com/catalogrsc

Fulcrum9, Inc.
PO Box 2902
Acton, MA 01720
Tel: 781-248-9155 & 978-549-3868

Fulcrum9, Inc.
System Testing Solutions

Fulcrum9 ThermalBlade

www.Fulcrum9.com



Product overview

The Fulcrum9, Inc. ThermalBlade offers the flexibility to verify airflow, power load, and thermal performance of AdvancedTCA chassis, logic card, and backplane designs. One or more of the ThermalBlades are installed in the AdvancedTCA chassis slot(s). The ThermalBlade emulates typical application component heights and features to enable airflow and thermal analysis. A variety of independently controlled power conditions are provided for in-depth power management.

The Fulcrum9 ThermalBlade is intended for engineers who must understand their designs' weaknesses, how they can optimize performance, and verify that their finished products are fully AdvancedTCA compliant.

Engineers use the ThermalBlade during design development in the engineering lab to analyze and evaluate airflow, power load, and thermal performance. Once designs are released for fabrication, the ThermalBlade can be used to verify power and thermal loads during manufacturing system test. The ThermalBlade provides engineers with a tool to manage Advanced TCA power and thermal compliance through all stages of system development.

FEATURES:

- AdvancedTCA compatible design
- Test airflow, power load, and thermal performance of your chassis, logic cards, and backplane
- Provides a thermal load of up to 200 watts per slot from a redundant ATCA –48 VDC backplane
- Operates over the entire –36 to –72 VDC voltage range without damage to thermal board
- Mimics aerodynamics of a typical high performance board
- User switchable variable thermal load choices of zero, 1/3, 2/3, and full load for thermal and power analyses
- Nine on-card thermal measurement points
- Provision for up to 50 watts connection to RTM ThermalBlade (available separately)
- All UL and IEC safety design features are incorporated – fusing, thermal shutdown, and adequate copper weight
- Designed with ATCA ESD and internationally mandated safety and thermal shutdown features

For more information, contact fulcrum9inc@verizon.net.

RSC #75 @www.compactpci-systems.com/catalogrsc

Fulcrum9, Inc.
PO Box 2902
Acton, MA 01720
Tel: 781-248-9155 or 978-549-3868

Fulcrum9, Inc.
System Testing Solutions

Fulcrum9 RTM ThermalBlade

www.fulcrum9.com

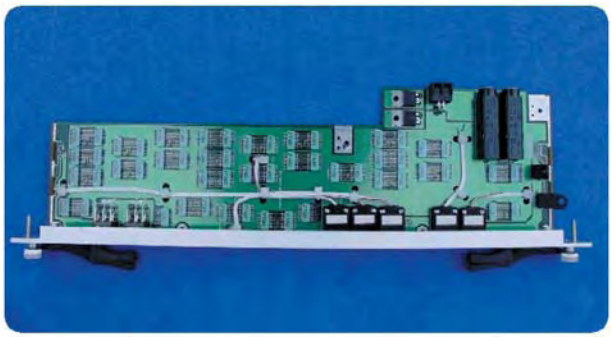
Product overview

The Fulcrum9, Inc. RTM ThermalBlade offers the flexibility to verify the airflow, power load, and thermal characteristics of your AdvancedTCA chassis, logic cards, and backplane designs. Used in conjunction with the ThermalBlade, the RTM emulates a typical rear-mounted logic card. Application component heights and features, airflow resistance, and enclosure power dissipation can be evaluated and analyzed.

Engineers use the RTM ThermalBlade during design development in the engineering lab to analyze and evaluate air flow, power load, and thermal performance. Once designs are complete, the RTM ThermalBlade is utilized during manufacturing system test to verify power and thermal loads.

The Fulcrum9 RTM ThermalBlade is a tool specifically designed for engineers who want to understand the strengths and weaknesses of their designs, try variations, and optimize and verify that their finished product is fully AdvancedTCA compliant.

RTM ThermalBlade is a trademark of Fulcrum9, Inc.



FEATURES:

- AdvancedTCA compatible design
- Provides thermal load of up to 50 watts per slot
- Operates over the entire –36 to –72 VDC voltage range without damage to thermal board
- Mimics aerodynamics of a typical high performance board
- User switchable variable thermal and power load choices of no load, 1/2, and full load
- On-card thermal measurement at five measurement points
- Powered from the companion Fulcrum9 ThermalBlade
- All UL and IEC safety design features are incorporated – fusing, thermal shutdown, and adequate copper weight
- Designed with ATCA ESD and internationally mandated safety and thermal shutdown features

For more information, contact fulcrum9inc@verizon.net.

RSC #76 @www.compactpci-systems.com/catalogrsc

Radian Heatsinks, a division of Intricast Company, Inc.

2160 Walsh Avenue
Santa Clara, CA 95050
Tel: 800-689-2802 • Fax: 408-988-0683

radian

ATCA Thermal Analysis

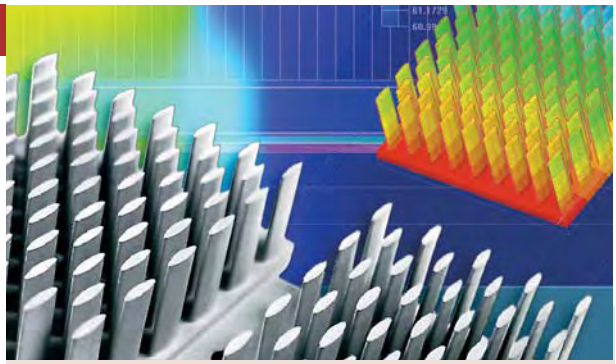
www.radianheatsinks.com

For ATCA applications that require custom cooling, Radian offers detailed thermal analysis and validation services using powerful Computational Fluid Dynamics (CFD) and proprietary simulation packages. With this effective modeling technology, our on-site thermal design engineers can assess your designs throughout the development cycle – at component, board, and system levels. By directly loading your CAD files into our CFD package, we can conduct the analyses you need and deliver results within a short time frame.

Radian also offers standard, low-profile BGA heatsinks that provide optimum cooling for various BGA/SM packages, and are compatible with most ATCA, CompactPCI, and PC/104 form factors.

For more information, contact radiansales@radianheatsinks.com.

RSC #7701 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Complementary CFD analysis and simulation services available
- Tailored heatsink design engineering assistance provided
- Versatile manufacturing and finishing capabilities for cost-effective production
- INE and EZ Snap BGA heatsinks available in sizes from 21mm to 45mm footprints for standard ATCA applications
- Low-profile BGA heatsink heights range from 7.11mm to 9.8mm
- Contact Radian for complementary CFD analysis, engineering assistance, rapid prototyping, and volume solutions

Wolf Industrial Systems Inc.
5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

Blower Tray – 1,800 linear feet per minute

www.wolf.ca

The Wolf modular Blower Tray with Built-In-Test (BIT) Alarm Card provides outstanding thermal regulation and system monitoring. At 1,800 linear feet per minute, this advanced subsystem keeps components cool by moving air faster than any other commercially available solution.

The BIT Alarm Card monitors system parameters, including I/O, temperature, and fan-speed, while displaying system status on discrete LEDs on the front panel. The alarm card also generates an audible alarm and latched faults, where LEDs remain red until cleared with a reset. A built-in delay prevents false alarms and nuisance trips.

With 1,800 lfpm airflow and built-in monitoring, this rugged MIL-spec product meets the design needs of any industrial or military implementation. A logical subsystem, the Wolf Blower Tray with BIT Alarm Card features state-of-the-art engineering in a proven, tested package.

Built to rigorous reliability and durability standards, Wolf Blower Trays adhere to industrial or military specs. This is a serious system cooling and monitoring solution for demanding applications.

Wolf can custom-design any product to make it suit your application perfectly. VME, CompactPCI, and AdvancedTCA custom-design proposals supplied on request.

Visit www.wolf.ca/blowertray

FEATURES:

- 1800 linear feet/min airflow
- CompactPCI, VME, AdvancedTCA
- Companion alarm card monitoring
- Audible alarm and red warning LEDs
- Latched faults, for after-the-fact problem indications
- Alarm delays to avoid false and nuisance trips
- Anti-humidity heaters
- Internal temperature sensors
- Removable AC blower units
- Qualified to MIL-STD-461 EMI, MIL-STD-167-1 vibration and MIL-S-S-901D shock, heavy weight barge; full compliance with MIL-STD-1399 (Sect 300)

For more information, contact engineering@wolf.ca.

RSC #78 @www.compactpci-systems.com/catalogrsc

Power Connectors

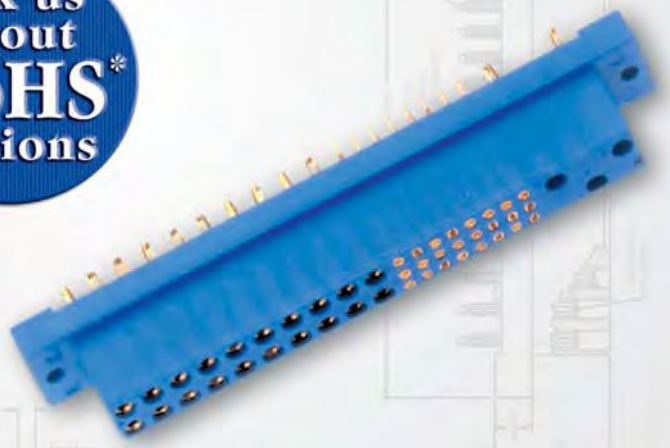
VP Series

PICMG 3.0 | Zone 1 | Connector

AdvancedTCA®

Ask us about RoHS* options

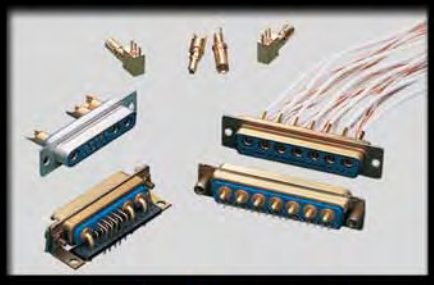
CompactPCI®



*European Union Directive 2002/95/EC "Restriction of Hazardous Substances"

PICMG 2.11 | P47 | Connector

PCIH Series

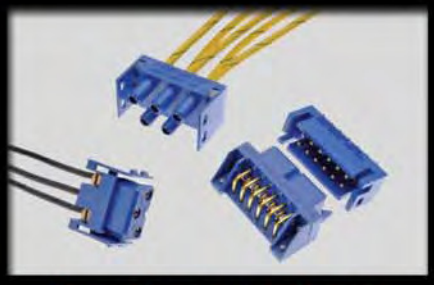


Combo-D Connectors

Signal, thermocouple, power, coaxial and high voltage contacts mixed in a single connector. Twenty connector variants offered in six shell sizes with a wide array of accessories options.

Goldfish Power Connectors

Miniature power interface connectors for applications which require excellent blind mating. AC/DC input, hardware management and DC output connections.



Power Connection System

3 to 30 contacts. Featuring an integral locking system, safety shrouded and screw termination options. Contact resistance as low as 0.0007 ohms.

RSC# 79 @www.compactpci-systems.com/rsc

Positronic Industries

Springfield, Missouri USA • 800.641.4054 • info@connectpositronic.com

www.connectpositronic.com

Coping with higher power CompactPCI boards and systems

By Robert C. Sullivan, VP of Engineering and Director of Corporate Technology

As the industry moves towards increased scalability, we will continue to see an increase in mezzanine modules use, particularly PMC and PrPMC, and soon XMC. With the advent of high-speed, serial, switch-fabric-enabled XMC (VITA 42.x) modules, high-end, board-level power dissipation will climb from the current 50-60 W range to 75 W or more.

Switch fabrics

CompactPCI currently supports a number of switch fabrics such as PICMG 2.16, PICMG 2.17, PICMG 2.18, and PICMG 2.20. PICMG 2.16, supporting 10/100/100Base-T Ethernet, is by far the most successful in the marketplace with broad industry support. All of these except PICMG 2.20 are currently limited by the 2 MM HM connector's bandwidth for transmission of high-speed serial switch fabrics. CompactTCA will eliminate this bottleneck.

PMC and XMC

In the last few years, PMC mezzanine cards have become increasingly important, providing scalability and flexibility for system integrators. As XMC mezzanine cards become available, they will supplant PMC modules for higher performance applications. The XMC draft standards allow power increase of more than a factor of ten, to well over 100 W. Refer to Figure 1 for mezzanine power dissipation figures. Due to cooling challenges, we are unlikely to see XMC modules that are nearly that hot, at least in the near term. We will see XMC modules, however, that significantly exceed the current PMC and PrPMC power levels of 7.5 W-12.5 W. Note that two 25 W XMC modules mated to a 50 W SBC would result in a power dissipation of 100 W in a single slot.

FPGAs

Another interesting trend is the use of high performance FPGAs to enable scalable, configurable solutions. FPGAs have taken hold in the VME VXS space, and we can expect them, particularly ones with high-speed serial interfaces, to appear on XMC mezzanine cards as well as CompactTCA cards. This will tend to drive power up.

What CompactPCI needs is a mainstream platform that supports a high-speed switch fabric infrastructure. The emerging CompactTCA specification will be this platform. CompactTCA, together with XMC, will enable the deployment of compact, high performance systems

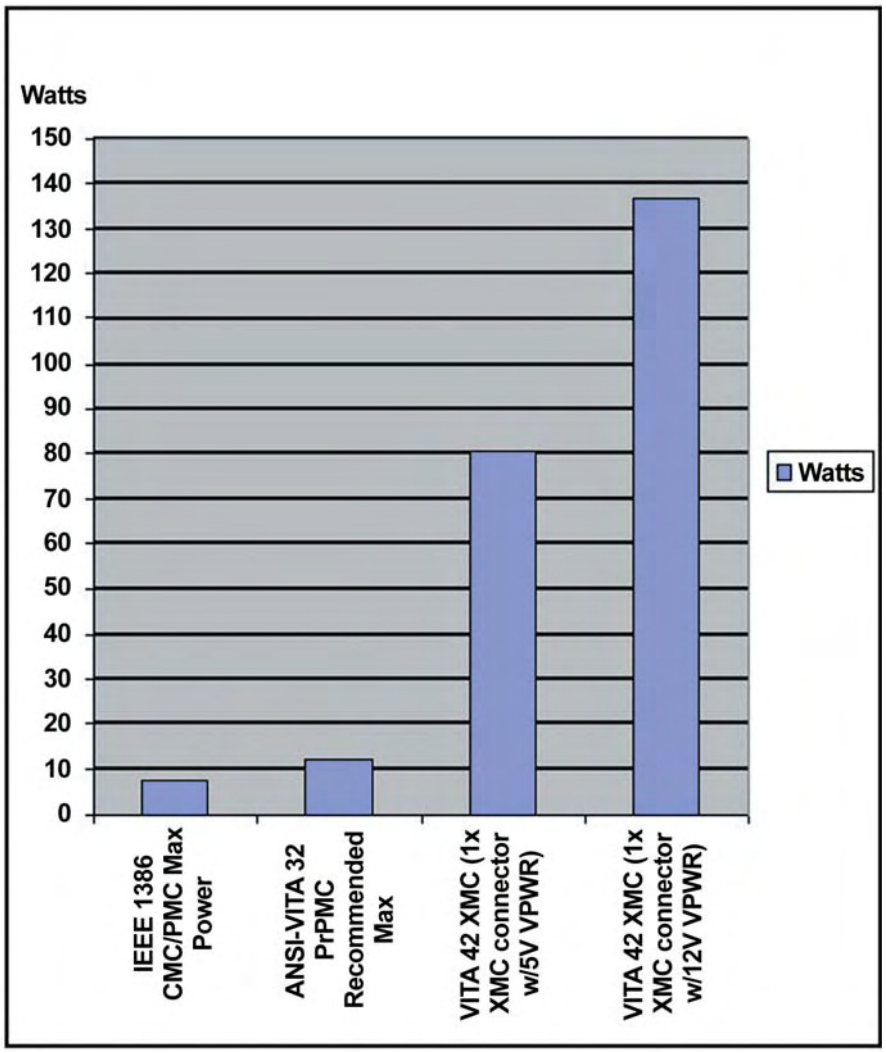


Figure 1

based on leading switch fabrics such as Serial RapidIO, PCI Express, Infiniband, and 10 Gigabit Ethernet. XMC products have started to appear on the market, and CompactTCA products can be anticipated later in 2005.

Trends meet the challenges

The combination of CompactTCA high-speed switch fabrics, XMC mezzanines, and high performance FPGAs will result in an increase in power dissipation, even for mainstream applications. As a result, system integrators will need to address system level cooling issues early in the system development process. While it is possible to cool these systems, tradeoffs are necessary, such as chassis size versus acoustic noise.

Most off-the-shelf CompactPCI chassis can effectively cool 50 W per slot or less, so they just can't cut the mustard for the emerging higher power boards. For systems with power dissipation levels of 50 W per slot or more on a 6U x 160 MM eurocard, careful thermal analysis is required, taking into account the specific application payload. Throughout the past year at Hybricon, our most demanding customers have driven up the leading edge 6U x 160 MM eurocard system requirements from 70-100 W per slot to 140-200 W per slot, and we have already delivered a number of high-power chassis solutions that are capable of cooling 140 W-200 W per slot. These applications usually involve boards utilizing switch fabrics, FPGAs, and mezzanines. This trend will spill over into a lot more applications as the higher performance switch fabrics move into the mainstream.

For more information, visit www.hybricon.com.

CompactPCI soaring high in the avionics industry

By John Gerngross, President

This past year, CompactPCI has continued to make strong inroads into the commercial and military aerospace markets, both longtime users of reliable but aging and expensive solutions such as VME and VXI. Both industries have continued to move to smaller, lighter, and more powerful CompactPCI boards to equip their embedded, maintenance, and test stands. The demand is now soaring.

CompactPCI system manufacturers have long seen avionics as an ideal candidate for their boards. These systems take up far less of the precious physical space available aboard aircraft than other competing technologies. In addition, they have enough I/O density for most in-flight computing applications and are physically able to handle the demands of flight and heavy processing workloads without damage or overheating. Perhaps most importantly, CompactPCI boards cost less than their VME, VXI, and custom backplane counterparts.

In 2004, CompactPCI is now firmly established on avionics radar as a viable solution for their next generation of designs. Many avionics makers spent part of last year reviewing test stands, flight recorders, launch systems, and other onboard designs, working up proposed improvements as they do every 5-10 years. With their substantial I/O capacity, ruggedness, and small, light form-factor, the new breed of 3U-format CompactPCI boards has become highly attractive. Also, there are enough Commercial Off-the-Shelf (COTS) CompactPCI products available to make development of almost any imaginable in-flight solution much more feasible than it had been in the past. Additionally, with expanded requirements from the Department of Defense, many manufacturers are faced with increased demand for military aircraft sensors, onboard displays, counter measures, and other systems. It seems highly likely that CompactPCI has a bright future in onboard military aircraft computing.

The commercial avionics community couldn't have discovered CompactPCI, and 3U CompactPCI in particular, at a better time. The public's always increasing demand for electronic communications and entertainment has led recently to a slew of bandwidth-hungry services on planes, such as personal viewing monitors, moving maps, air phones, and video games. And more services are on the way, like in-flight cell-phone service and satellite-based Internet access. As the innovations of avionics engineers continue to push technical boundaries, the aircraft themselves will still face the same demanding physical restrictions, including space and heat-dissipation capabilities. High-density I/O 3U CompactPCI products are the perfect solution to this challenge.

CompactPCI boards the plane

Flight recorders, in-house testing systems, and other applications are moving from their old technologies to 3U CompactPCI. While commercial aircraft manufacturers are adopting CompactPCI for communications and entertainment applications, military aircraft makers are developing new sensor systems with CompactPCI as well as using the technology to find less costly ways of integrating new systems with legacy systems. Additionally, the avionics development and testing community sees CompactPCI as a low-cost, more portable solution for its test stands.

In 2005, look for increasing demand for 3U CompactPCI solutions throughout the avionics industry, as avionics engineers build more in-flight applications with this technology. Condor Engineering, which has been at the forefront of CompactPCI innovation for avionics, intends to meet this demand by designing more COTS rugged products with increased I/O density. We will continue to provide innovative and reliable products through research, development, and stringent quality control. One such solution is our new QCP product, a 3U CompactPCI board available in convection- and conductively cooled versions with up to four dual-redundant 1553 interfaces and eighteen 28v input/output discretes. It has been well received by an industry that demands the highest quality products.

Thanks to a broad range of design wins, CompactPCI boards will certainly be logging a lot of frequent flyer miles in 2005.

For more information, visit www.condoreng.com.

Looking for a solution?

We've got it!

APW Electronic Solutions continues to reach new heights in standard off-the shelf chassis products supporting the Open Bus Architectures for CompactPCI, VME, VME64Extensions, PXI/VXI, AdvancedTCA, and other Switched Fabric Architectures. Our system level components and turnkey system solutions incorporate high performance interconnect technologies for today's fast moving industries: telecommunications, networking, commercial, instrumentation, medical and military.

At APW Electronic Solutions our focus is on the optimum solution in support of your unique system packaging requirements. We can make modified or custom solutions to your requirements.

For more information:
sales.electronicsolutions@apw.com
www.apw.com

apw
Electronic Solutions

RSC# 83 @www.compactpci-systems.com/rsc

ARCHITECTURES
ATCA | cPCI | VME | VME64X | VXI/PXI

Elma ATCA Solutions. The Right Start.

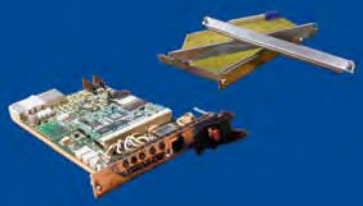
When you're ready to dive into the design phase of your next AdvancedTCA product, Elma can show you how it's done. Whether you're seeking expert engineering, a more economical way to get to production or simply a faster way to launch your product, look no further than Elma. Custom design is our specialty, and with our wide range of testing capabilities you can be confident that your product is designed to meet ATCA standards, and tested to meet yours. Our vast offering of off-the-shelf AdvancedTCA-compliant products and accessories provide the ideal platform for your jump into the market. Let us help you launch your new product and move you closer to production. Ready to test the waters? Give us a call and we'll tell you more.

ELMA
Your Solution Partner

US Elma Electronic Inc.
Phone: 510.656.3400 - Email: sales@elma.com - Web: www.elma.com

ATCA Systems
- 4U, 5U, 12U, 13U
- Dual Star or Replicated Mesh
- Redundant 48VDC input (AC input options available)

ATCA Backplanes
- 5-14 Slots
- Dual Star or Replicated Mesh
- Compliant to PICMG 3.0 Rev 1.0
- Connection to IPM Sentry shelf manager



ATCA Accessories
- Front Panels
- Handles
- Shelf Management

ATCA Capabilities
- Simulation
- 3D Solid Modeling
- NEBS Certification
- Manufacturing
- Integration

Is COTS dead?

By Stuart Morris-Hipkins, CEO

Hypertronics is a niche player in the electronic interconnect field, delivering high reliability connectors and solutions for industries such as the military, avionics, space, and medical that operate in the harshest conditions where failure is not an option. As such, we see some very interesting trends developing in this sector over the next year and are ready to face the challenge.

First, and perhaps controversially, we see Commercial Off The Shelf (COTS) running out of steam. COTS may still have a role for non-critical applications, but more frequently, our customers are demanding higher levels of reliability and performance than COTS programs can deliver. In its place, however, we are seeing the emergence of Standard High-Reliability Off The Shelf (SHOTS) as a term that best describes the products that demanding industries require.

As an example, the inability of 2 mm COTS connectors to maintain signal integrity under extreme shock and vibration jeopardizes the successful completion of certain satellite programs. The cost implications of such delays are enormous, but the consequences of a connector failure during a mission are horrendous. At Hypertronics, we are able to work with the designers to deliver a standard product that features our unique Hypertac hyperboloid contact, which outperforms other designs under severe conditions, guaranteeing signal integrity.

An example of Hypertronics' approach is given by the recent introduction of our CompactPCI 2 mm connector. This connector format has been available for many years, but what Hypertronics has added is the high reliability of Hypertac contact technology, which provides immunity to shock and vibration and a high temperature LCP insulator that meets NASA outgassing requirements.

Second, industry is always demanding higher density interconnect solutions. Consumer goods manufacturers have led the way, but now it is the high-reliability sector's turn to follow suit. Needless to say, the solutions that suit game consoles are very different than those required by aerospace and medical companies. In response, Hypertronics has developed a new, scalable interconnect technology in a wire form in a high density array, which provides the required electrical performance for supporting high bandwidth signal connections up to 24 GHz.

Higher power and greater current carrying capability are also constant demands. Take airlines, for example. On long distance flights, every headrest will now incorporate some form of entertainment display, which requires handling of a lot of extra current. In response, we now offer a multi-contact strip connector that can handle up to 360 A per linear inch.

Third, and perhaps most important, is that interconnect solution providers such as Hypertronics must continue to be flexible and responsive. We must listen to new demands for products that have never existed before, such as non-magnetic solutions for the evolving MRI scanners market, and we must work with our customers to deliver appropriate solutions. In addition, we must act globally because our customers operate in all of the regions of the world.

For more information about Hypertronics, visit www.hypertronics.com.

Dawn VME Products
47915 Westinghouse Drive
Fremont, CA 94539
Tel: 510-657-4444 • Fax: 510-657-3274

Model 3800 CompactPCI Portable Enclosure

www.dawnvme.com

Dawn VME Products' new Model 3800 CompactPCI chassis is the ideal choice when a portable, cost-effective CompactPCI™ enclosure is required. Its native configuration offers a five-slot 1101.10 front card cage and 1101.11 rear TM card cage.

Model 3800 is available with either a 2.16 or 2.1 backplane. Using simulation and advanced PCB layout tools, Dawn will design a custom backplane to meet your unique connectivity requirements.

The enclosure comes with four high-capacity cooling fans arranged in a "push-pull" configuration, and a 300W power supply with auto-selectable VAC input, 0.95 Power Factor Correction (PFC), and FCC Class B and CE regulatory agency certifications. Lastly, an internal support plate accommodates one 2.5" disk drive.

Dawn's new RuSH™ System Health Monitor is standard in all Model 3800 configurations. It provides operational status to the operator via a front panel-mounted, alphanumeric PLED display. Temperature is monitored in three locations within the chassis, fan speed is monitored and controlled to preset or dynamically set parameters, and the power supply can be automatically shut-off under a fault condition. All parameters and limits can be modified via the onboard RS-232 serial port or via the Ethernet port.

Data sheets for Model 3800 and RuSH™ Model 426 may be found on Dawn's website.

FEATURES:

- Five-slot 1101.10/1101.11-compliant CompactPCI enclosure system
- Portable, 19" rack-mount and desktop configurations
- 3U height x 400mm depth
- CompactPCI 2.16 PSB or 2.1 backplane options; custom backplane design services offered
- Three-slot 1101.11 rear transition module card cage
- Dawn's RuSH™ System Monitor with display and dual communication ports: RS-232 and Ethernet
- Push-pull cooling system
- 300W power supply
- Chip-resistant beige paint in a textured finish
- Fully wired, burned-in, and tested prior to shipment
- Most configurations shipped in 24 hours
- Model 3800 is covered by Dawn's exclusive Lifetime Warranty (contact Dawn for details)

For more information, contact jmarceca@dawnvme.com.

RSC #86 @www.compactpci-systems.com/catalogrsc

Radian Heatsinks, a division of Intricast Company, Inc.

2160 Walsh Avenue
Santa Clara, CA 95050
Tel: 800-689-2802 • Fax: 408-988-6200

radian

cPCI BGA Heatsinks

www.radianheatsinks.com

Radian's low-profile BGA heatsinks provide optimum cooling for various BGA chips and surface mount packages, and are compatible with most CompactPCI, AdvancedTCA, and PC/104 form factors. These off-the-shelf, removable heatsinks are high efficiency solutions that come with many clip/pad options and require no special board modifications or complex assemblies.

The INE and EZ Snap Series BGA Heatsinks are conveniently sized to fit packages from 21mm to 45mm and a variety of chip heights. Standard low-profile heights range from 7.11mm to 9.8mm high. These compact, round, and square pin designs are ideal for maintaining unconstrained microprocessor performance when available space and/or weight are limited.

For more information, contact radiansales@radianheatsinks.com.

RSC #8701 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Removable CompactPCI BGA heatsinks are easily installed, with no special board modifications needed
- Standard BGA heatsink sizes range from 21mm to 45mm footprints
- Heatsink heights available from 7.11mm to 9.8mm for low-profile, CompactPCI, AdvancedTCA, and PC/104 applications
- Attachment options compatible with various chip heights and package types, including plastic, ceramic, and metal
- Black anodized plating delivers enhanced performance in harsh environments and natural convection
- All products provided preassembled, with lightweight aluminum heatsink, selected clip size, and thermal pad option

Interactive Circuits and Systems Ltd.
5430 Canotek Road
Ottawa, ON K1J 9G2 Canada
Tel: 613-749-9241 • Fax: 613-749-9461

ICS-710

www.ics-ltd.com

The ICS-710 is a complete data acquisition solution. It offers 32 differential input channels, onboard programmable anti-aliasing filter and gain, 24-bit Sigma-Delta ADCs, simultaneous sampling at rates of up to 216 kHz/ch., and a signal-to-noise ratio close to 90 dB.

The product features the new FPDP II 400 MBytes front panel interface in addition to a 64-bit/66 MHz CompactPCI PICMG 2.0 R3.0 hot-swap interface.

The ICS-710 is an ideal choice for complex data acquisition applications such as sonar, vibration analysis, digital audio, and precision test and measurement. As many as 32 ICS-710 boards can be operated synchronously to ensure simultaneous sampling of up to 1024 channels.

For more information, download Tech Note #49 from www.ics-ltd.com or contact sales@ics-ltd.com.

RSC #8801 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 66 MHz, 64-bit hot-swap master/slave 6U CompactPCI board
- Up to 32 differential input channels
- A programmable frequency anti-aliasing filter
- Programmable input level from 0.6-10 Vpp
- Built-in overvoltage protection
- 24-bit Sigma-Delta A/D converters and simultaneous sampling at rates up to 216 kHz/ch.

CompactPCI® and AdvancedTCA® Systems Resource Guide
Analog I/O

Interactive Circuits and Systems Ltd.
5430 Canotek Road
Ottawa, ON K1J 9G2 Canada
Tel: 613-749-9241 • Fax: 613-749-9461

ICS-725

www.ics-ltd.com

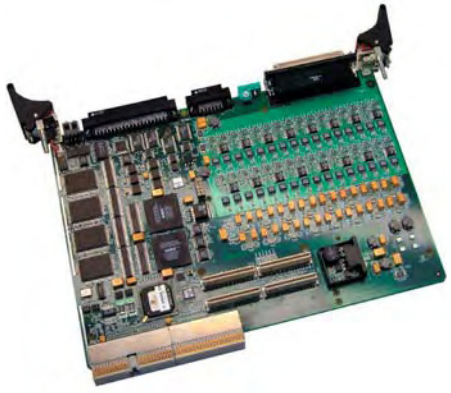
The ICS-725 is a 32-channel, 24-bit, 288 kHz/ch. DAC board. It uses one of a new generation of multi-bit Delta-Sigma DAC chips (Analog Devices AD1852) that offers very high precision over a wide bandwidth.

The product features the new FPDP II 400 MBytes front panel interface in addition to a 64-bit/66 MHz CompactPCI PICMG 2.0 R3.0 hot-swap interface.

The ICS-725 provides differential outputs with high-current drivers, allowing the board to directly drive large capacitive loads. The outputs may also be taken as single-ended signals. Eight-pole programmable reconstruction filters are provided at the outputs so that no external filtering is required.

For more information, download Tech Note #50 from www.ics-ltd.com or contact sales@ics-ltd.com.

RSC #8802 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Up to 32 separate 24-bit DACs
- Programmable reconstruction filter included
- Simultaneous sampling across all channels on single or multiple boards
- Up to 140 kHz signal bandwidth (up to 288 kHz update rate)
- External or programmable internal clock and trigger
- 4 MBytes onboard buffer and 16 MBytes option available

Elma Bustronic
44350 Grimmer Blvd.
Fremont, CA 94538
Tel: 510-490-7388 • Fax: 510-490-1853

ELMA
Your Solution Partner

cPCI: PICMG 2.16 Backplane

www.elmabustronic.com

Elma Bustronic introduced one of the first cPSB backplanes in the market and hasn't slowed down since. With Elma Bustronic, you get extensive experience in PICMG 2.16 design. The company offers a wide range of standard configurations, including various slot sizes and Single Star and Dual Star topologies. Elma Bustronic's custom design services ensure that you get the highest performance cPSB backplane with creative design solutions.

Elma Bustronic's Signal Integrity Lab continues its simulation/characterization efforts for PICMG 2.16 and other high-speed technologies.

For an optimized solution for PICMG 2.16, contact Elma Bustronic at www.elmabustronic.com or call 510-490-7388.

FEATURES:

- Conforms to PICMG 2.16 specification
- Conforms to PICMG basic specification 2.0 R3.0
- 6U height
- Power configurations optional
- Space saving low profile design
- Various slot sizes and configurations
- Simulation/characterization for optimal performance

For more information, contact info@bustronic.com.

RSC #89 @www.compactpci-systems.com/catalogrsc

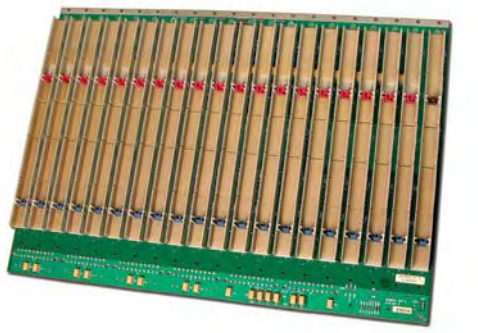
Carlo Gavazzi Computing Solutions

10 Mupac Drive
Brockton, MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

CompactPCI Backplanes

www.gavazzi-computing.com

Carlo Gavazzi's CompactPCI backplanes are available in both 6U and 7U configurations. Standard backplanes are available in 2-16 slots, while custom backplanes are available in 2-21 slots. The P3 connector can be used as extended user I/O. The P4 connector on the H.110 bussing is dedicated and contains the Time Division Multiplex (TDM) bus. The user definable pins on P5 are for through-backplane analog and digital telephony I/O, user definable input and output, and CT front-board supply voltage feedthrough. The backplanes contain the Intelligent Platform Management Bus (IPMB) to support the Intelligent Platform Management Interface (IPMI).



For more information, contact gavazzi@mupac.com.

RSC #9001 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 2-16 slots standard, 2-21 slots custom, and 6U (10-layer) or 7U (12-layer) format
- CT bussing (ECTF H.110)
- 5 volt/3.3 volt supported
- ATX power supply connectors (7U format), power blocks (6U format)
- PICMG 2.16 and 2.17 backplanes also available
- Hot swap compatible

CompactPCI® and AdvancedTCA® Systems Resource Guide
Backplanes

Hartmann Elektronik GmbH

Motorstra. 43
Stuttgart, D-70499 DE
Tel: +49-711-13989-0 • Fax: +49-711-866-1191

CPCI to PCI Expansion

www.hartmann-elektronik.com

The CPCI to PCI Expansion Unit enables you to run four PCI boards in a CompactPCI system. Now you can use up to four PCI cards in a modern and highly available CompactPCI System.

The expansion unit is inserted in a free device slot of a CompactPCI backplane. It is best used with a backplane that has the host on the right side. The unit is then inserted in the first slot on the left. No slots are lost in this manner, and even long PCI cards can be inserted. The BIOS used must be compatible with PCI Specification 2.1. The bridge will be recognized automatically by the plug-and-play BIOS.

Hartmann is a backplane manufacturer with a very big range of standard backplanes, as well as customized backplanes and accessories.

For more information, contact info@hartmann-elektronik.de.

RSC #9002 @www.compactpci-systems.com/catalogrsc

FEATURES:

- The expansion unit has an automatic signal voltage V (I/O) level adaptation feature for 5V and 3.3V
- Five LED displays indicate the present voltages: 3.3V/5V/ V(I/O)/+12V/-12V
- Additional current injection by Fastons or rear I/O modules: +5V-8A, +3.3V-10A, +12V-1A, and -12V-1A
- JTAG connector can be activated by jumper, then the JTAG from the CompactPCI bus is connected to the PCI bus
- A poly-switch fuse (1.25A) is integrated on the assembly between the primary (CompactPCI bus) and secondary (PCI bus)
- Also available: CompactPCI fabric board, PCI fabric board, PCI expansion unit, CompactPCI R I/O fabric board, and fabric switch

Kaparel Corporation, A Rittal Company

97 Randall Drive
Waterloo, ON N2V 1C5 Canada
Tel: 519-725-0101 • Fax: 519-725-0414

Modular Backplanes

www.kaparel.com

Rittal/Kaparel offers a series of five CompactPCI Modular Backplanes: PS13xx, PS14xx(A/B), and PS44xx(B), designed to enable expansion past the 8-Slot CompactPCI and 21-Slot H.110 limits. These 33MHz and 66MHz backplanes are excellent for low-volume applications or situations that require various system configurations, and are a solid basis for high-volume custom designs. Low-volume applications are typically found in industrial automation and software/hardware development systems.

Designed to expand from right-to-left or left-to-right, any slot count (up-to 21) is achieved by connecting backplanes with bridge modules. Custom solutions are available.

FEATURES:

- 8-Layer and 10-Layer PCBs
- Two to eight, 3U/6U single wide (4HP) CompactPCI slots
- +5V and +3.3V, 33 MHz PCI bus interface
- User definable geographic address for each physical slot
- ATX compliant power connectors provide voltage sensing for +3.3V, +5V, +12V power output, maintaining backward compatibility
- Low-profile and rear-pallet bridge connect at rear to allow for maximum slot count at front

For more information, contact it@kaparel.com.

RSC #9101 @www.compactpci-systems.com/catalogrsc

GE Fanuc Embedded Systems, Inc.

12090 South Memorial Parkway
Huntsville, AL 35803
Tel: 256-880-0444 • Fax: 256-882-0859

CP721

www.gefanuc.com/embedded

Designed around IBM's PowerPC 440GX, the CP721 is available with processor speeds up to 800 MHz and is fully hot swappable. The blade provides dual serial RS-232 as well as dual 10/100/1000Base-T ports routed to the J3 connector. The CP721 is PICMG 2.16-compliant and can be run as a system or non-system controller.

The CP721 provides up to 1 GB of DDR memory and a CompactFlash/Microdrive for up to 1 GB of additional storage capacity. The dual PMC sites provide additional I/O options and are routed to the CompactPCI backplane via the J3/J5 connectors.

FEATURES:

- IBM PowerPC 440GX with processor speeds up to 800 MHz
- Single-slot solution that supports system or non-system controller slots
- PICMG 2.16-compliant with dual 10/100/1000Base-T ports routed to J3
- Up to 1 GB of DDR high-speed access memory and up to 8 MB of onboard Flash memory
- Dual PMC slots designed for PCI 33-MHz/66-MHz bus speeds
- Operating system support for Linux and VxWorks

For more information, contact info.embeddedsystems@gefanuc.com.

RSC #9102 @www.compactpci-systems.com/catalogrsc

V Rose Microsystems
55 East Main Street
Johnstown, NY 12095
Tel: 518-762-1288
Fax: 518-762-4399

EKF Elektronik GmbH
Philipp-Reis-Str. 4
D-59065 Hamm, Germany
Tel: 49 (0)2381/6890-0
Fax: 49 (0)2381/6890-90

VRM-CC9-X and VRM-CD2-X

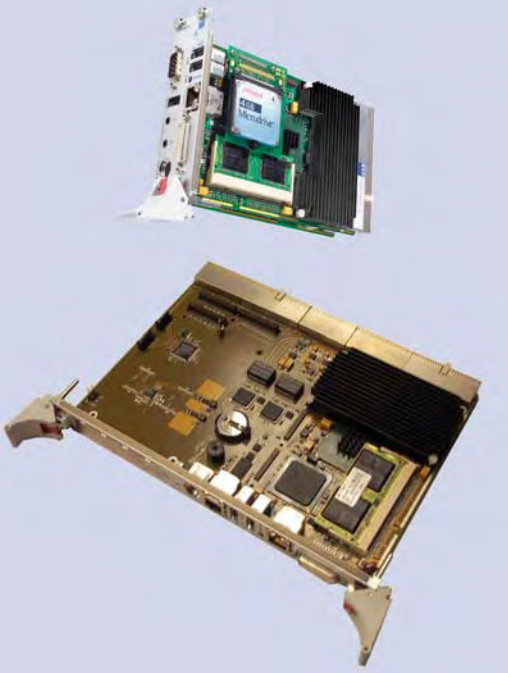
www.vrosemicrosystems.com and www.ekf.de

VRM-CC9-X

This 4HP/3U CompactPCI Pentium® M CPU, alternatively equipped with the Intel® series of (LV) Pentium® M or ULV Celeron® M processors, is designed especially for systems that require low power consumption and is available with a variety of processors, starting with the ULV 600-MHz Celeron® M up to the 2.0-GHz Pentium® M Dothan 755. The memory comprises a 200-pin SO-DIMM socket (notebook-style module), with PC2100/2700 DDR266/333 SDRAM, 1 GB maximum. The DVI-I video interface enables attachment of both advanced (digital) and legacy (analog) flat-panel displays and CRT monitors (D-SUB connector, optionally). The VRM-CC9-X is provided with a GigE controller. The onboard CompactFlash socket allows for utilization of an ATA Flash card or IBM Microdrive®. A local expansion interface connector may be used to directly attach a mezzanine companion I/O board, which can also carry a hard disk drive. As an option, rear I/O across the J2/P2 connector is available.

VRM-CD2-X

This low-power, 6U CompactPCI® CPU board with the Intel® Pentium® M processor features an embedded graphics controller. The user can choose between a DVI-I receptacle or the classic VGA D-Sub connector. The Pentium® M (in particular, the low-voltage, 1.4-GHz chip) reduces the power consumption considerably compared to previous processor generations. The VRM-CD2-X is equipped with several USB 2.0 ports and four independent Ethernet controllers for high-speed networking up to 1000 Mbps. The PICMG 2.16 Packet Switching Backplane is also supported (dual link port). For mass storage attachment, the VRM-CD2-X provides both Ultra ATA/IDE and S-ATA interfaces, as well as a CompactFlash socket. A bootable onboard USB 2.0 Flash disk drive, up to 2 GB, is available as an option. Some additional options are rear I/O, PMC mezzanine card socket, or an onboard hard disk drive.



FEATURES:

- VRM-CC9-X:
  – CHIPSET: Intel® i855 consisting of 82855 (GMCH), 82801D Controller Hub (ICH4), and 82802 (FWH)
- I/O: Onboard LPC/AC97 Super I/O, USB 2.0 overcurrent protected, audio interface connector, and 1 GB Ethernet
- COMPACTPCI: 32-bit PCI bridge chip PLX PCI 6150 (HB4), 133 MBps CompactPCI master
- VRM-CD2-X:
  – MEMORY: 200-pin SO-DIMM socket (notebook-style module), PC2100/2700 DDR 266/333-SDRAM, 1 GB maximum
- NETWORK: Three independent Gigabit Ethernet controllers (82541); one Fast Ethernet controller (82562); PICMG® 2.16
- STORAGE: Ultra ATA/100 connector; dual serial ATA controller, onboard 2.5" hard-disk module, and USB 2.0 Flash
- I/O: Onboard LPC/USB/AC97 Super I/O, USB, and audio expansion interface connector
- VIDEO: Analog monitor and digital flat-panel display support by DVI-I connector (front panel)
- Hot swap controller, PICMG 2.1

For more information, contact sales@vrosemicrosystems.com.

RSC #92 @www.compactpci-systems.com/catalogrsc

APW Electronic Solutions
14100 Danielson Street
Poway, CA 92064
Tel: 800-854-7086 • Fax: 858-679-4555

CompactPCI 1U and 2U Zephyrs

www.apw.com

Designed for 19" rack mount or desktop use, APW Electronic Solutions' 1U and 2U CompactPCI system chassis are suitable for housing a board pair in either a production system or development environment with low board count and limited space. Enough airflow is produced to dissipate the large amounts of heat generated by the latest generation of computer boards. Rear Transition Module support allows for pass-through I/O to the rear of the chassis to free up the front board for insertion and extraction, especially useful for development systems. Various power options include AC and DC, embedded and pluggable, as well as power levels that match your application.

FEATURES:

- 1U Zephyr Chassis:
  – 1.735"H x 17.0" (19" rack mount) x 11.75"D
- Fits within the 1U rack aperture
  – Two slots 6U CompactPCI
  – PICMG 2.0 R3.0 backplane
- Card frame meets IEEE 1101.10 & 11
  – Two slots Rear Transition Module support
- 250W ATX power supply
  – Active PFC, 99%
  – 110W @ +5V and + 3.3V combined
- Optimized fan cooling
  – 22 CFM total chassis airflow
  – 472 LFM average
- 2U Zephyr chassis:
  – Four slot 6U CompactPCI / PICMG 2.0 R3.0 backplane
- Optional H.110 CT bus (PICMG 2.5)
  – Optional PICMG 2.16 backplane
- Card frame conforms to IEEE 1101.10 & 1101.11 specifications
- Power supply options:
  – Provisions for one or two pluggable power supplies
  – One 250W ATX power supply
- Provision for accessory mounting 5.25" and 3.5" slim peripherals
- Hot swappable front loading fan tray for maximum cooling
- Provision for mounting embedded 2.5" hard drive (2U)

For more information, contact sales.elsol@apw.com.

RSC #93 @www.compactpci-systems.com/catalogrsc

Hypertronics Corporation
16 Brent Drive
Hudson, MA 01749
Tel: 978-568-0451 • Fax: 978-568-0680

2mm Connector

www.hypertronics.com

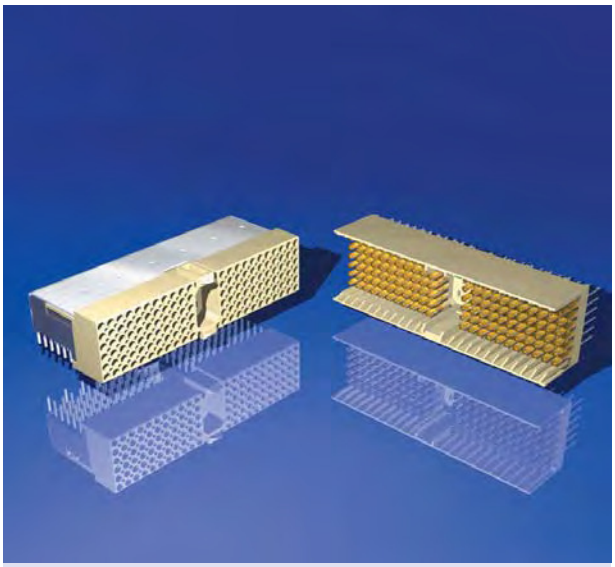
Robust 2mm connector is interchangeable with CompactPCI COTS systems

Hypertronics' 2mm connectors, interchangeable with CompactPCI COTS systems, are immune to shock and vibration. Tested to military standards, the Hypertronics 2mm connector delivers high performance and reliability in a ruggedized CompactPCI format for mission critical applications such as military land systems, shipboard, and aerospace. Industrial Control – such as factory automation and robotics – railway controls and medical applications including CATSCAN and MRI imaging are other demanding markets served by the new 2mm system.

The Hypertronics 2mm connector system is based on the legendary Hypertac® contact, providing immunity to shock and vibration fretting. Configured on a 2mm center line with six rows, the Hypertronics 2mm connector uses 0.4mm Hypertac contacts that feature under 8 milliohms contact resistance and a current rating of 1.0A. Hypertronics optimized contact lead traces provide superior performance in high-speed signal applications, and the connectors are compatible with standard reflow soldering processes.

Following initial success in space and satellite, the Hypertronics 2mm connector is now available as a product family in both keyed and unkeyed configurations. Modular in design, the connector is variable in length and can be changed in increments of five contacts. Other benefits include: EMI/RFI shielding; standard 2mm footprint; keying to ensure correct mating; and a high temperature LCP insulator that meets NASA outgassing requirements.

The connectors are interchangeable with the board layout on COTS systems and are reverse gender to commercial 2mm products. Adapters are available to mate with COTS 2mm connectors.



FEATURES:

- Offers complete Hypertac contact technology, round pins to mate with the Hypertac contact
- Variable in length and can be changed in increments of five contacts (one wafer) due to the modular wafer length
- Reverse gender to commercial 2mm products
- 2mm center line, six row
- Receptacle half uses 0.4mm Hypertac contacts
- Single shielding
- Standard 2mm footprint
- Immune to shock and vibration fretting
- High-temp LCP insulator meets NASA outgassing requirements
- Keying feature ensures proper mating
- Shield prevents EMI/RFI
- Hypertronics optimized contact lead traces provide superior performance in high-speed signal applications

For more information, contact info@hypertronics.com.

RSC #94 @www.compactpci-systems.com/catalogrsc

Innovative Integration
2655 Park Center Drive
Simi Valley, CA 93021
Tel: 805-520-3300 • Fax: 805-579-1730

cToro

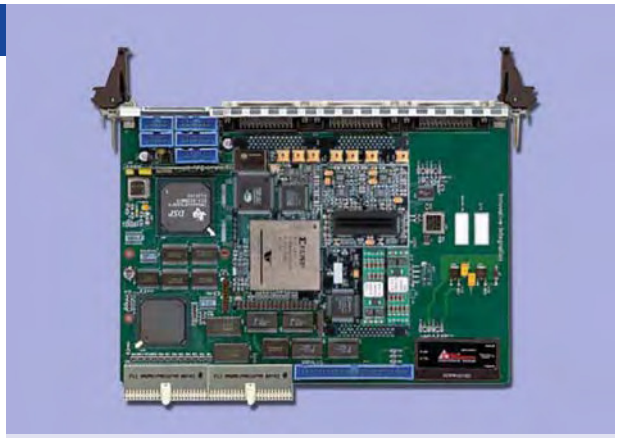
www.innovative-dsp.com

The CompactToro card is perfect for servo control and data acquisition applications requiring high performance DSP with precision 16-bit analog. Its high-performance 32-bit floating-point DSP controls up to 16 simultaneous channels of independent A/D and D/A conversion with flexible trigger modes. The CompactToro's high performance 32/64-bit PCI interface is capable of up to 264 Mbytes/sec data bursts, which makes it ideal for data-intensive applications. The CompactToro board shares many features with other boards in the Matador product line.

Applications include: high-channel vibro/acoustic monitoring, high-channel servo controller, state-space control, optical switch control, and complex data acquisition schemes.

For more information, contact sales@innovative-dsp.com.

RSC #9501 @www.compactpci-systems.com/catalogrsc



FEATURES:

- 150-MHz TMS320C6713 DSP (floating point)
- 16 independent analog I/O channels to 250 Ksamples/sec
- 64 bits digital I/O
- CompactPCI 64/32-bit, 33-MHz, 5V/3.3V
- Complex trigger modes with hardware event logging
- Multiboard synchronization (PXI)

DSPs and FPGAs
CompactPCI® and AdvancedTCA® Systems Resource Guide

Innovative Integration
2655 Park Center Drive
Simi Valley, CA 93021
Tel: 805-520-3300 • Fax: 805-579-1730

Quixote

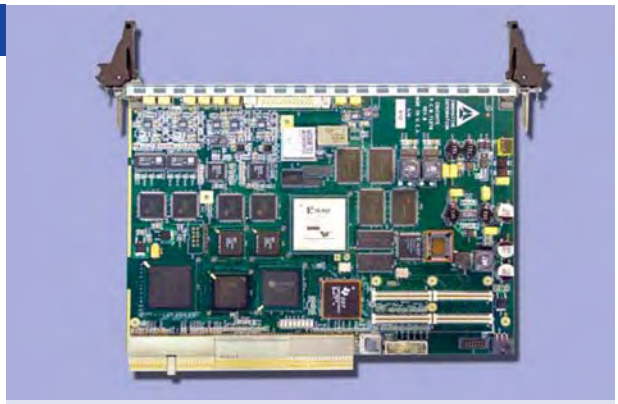
www.innovative-dsp.com

Quixote – A complete SDR platform on one powerful CompactPCI card

Combining 105-MHz 14-bit dual analog I/O, the C6416 DSP, a 6-million gate Virtex-II FPGA and high-speed digital ports, Quixote merges the best of all worlds with unprecedented levels of integration. Quixote is the perfect platform for Software Defined Radio, Signal Intelligence, Advanced RADAR, Electronic Warfare, and High-Speed Physics. With upcoming support of PMC site and PICMG 2.17 StarFabric interconnects, Quixote is a powerful and compact design that redefines integration, performance, and flexibility. Complete software development suite and logic framework accelerate custom application development.

For more information, contact sales@innovative-dsp.com.

RSC #9502 @www.compactpci-systems.com/catalogrsc



FEATURES:

- 600-MHz TMS320C6416 DSP; 2-6 MGate Virtex-II FPGA
- 32 Mbytes SDRAM, 8 Mbytes ZBT SBSRAM; 64/32-bit CompactPCI, 66 MHz, 5V/3.3V
- AD6645 and AD9764 converters
- Complex triggering modes with HW event logging
- PMC Site w/Jn4 to FPGA DIO
- PICMG 2.17 StarFabric-compliant

Innovative Integration

2655 Park Center Drive
Simi Valley, CA 93021
Tel: 805-520-3300 • Fax: 805-579-1730

cConejo

www.innovative-dsp.com

CompactConejo is a performance-oriented DSP card for CompactPCI/PXI-based data acquisition, playback, and co-processing with four analog I/O channels at up to 10 Msamples/sec input and up to 50 Msamples/sec output. It uses the acclaimed C6713 processor from Texas Instruments as the heart of data movement and processing functions. CompactConejo provides four simultaneous analog inputs, four analog outputs, a logic architecture that supports extremely flexible trigger mechanisms, a choice of timebase sources, and a valuable real-time event log. With Innovative Integration's multi-board support features, CompactConejo is a truly complete solution for a wide array of applications like RADAR, advanced medical imaging, physics research, video processing, semiconductor testing, transient capture, arbitrary waveform generation, industrial scanners, wireless development, precision instruments, etc.

For more information, contact sales@innovative-dsp.com.

RSC #9601 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 150-MHz TMS320C6713 DSP (floating point); 32 Mbytes SDRAM
- 4 Channels 10-MHz, 14-bit Input
- 4 Channels 15-MHz, 2/30 or 1/50, 16-bit output
- 64/32-bit PCI, 33-MHz, 5V/3.3V, hot swappable
- Supports complex trigger modes with HW event logging
- Multi-board synchronization (PXI bus)

CompactPCI® and AdvancedTCA® Systems Resource Guide
DSPs and FPGAs

Lyrtech

4495 Wilfrid-Hamel Blvd., Suite 100
Quebec, PQ G1P 2J7 Canada
Tel: 418-877-4644 • Fax: 418-877-7710

VHS-ADC

www.lyrtech.com

The VHS-ADC is an ideal card for smart (array) Multiple Input/Multiple Output (MIMO) antenna development. With eight or 16 channels at 105 MHz, a large FPGA for high-speed processing, SDRAM for signal storage and system-level support using Xilinx's System Generator, it provides developers with advanced hardware and ease of development.

When combined with additional DSP/FPGA processing boards, such as the SignalMaster or QuadMaster CompactPCI platform, it becomes a complete and very high-performance IF/baseband solution.

Also, the VHS-ADC can be combined with the VHS-DAC to provide an end-to-end chain for high-speed processing of sixteen transmission channels.

For more information, contact info@lyrtech.com.

RSC #9602 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Eight 105 MSPS input channels
- Optional add-on daughter board provides eight additional input channels
- CPCI (32-bit CompactPCI 33MHz) 6U form factor FPDP 400 MB/sec (12.5MSPS/chan. at eight channels and 25MSPS at 16 channels)
- Low level hardware drivers API and GUI
- High-level hardware driver integration in Simulink for quick implementation with system generator for DSP
- Leading-edge interface enables data recording and playback on the onboard SDRAM for data buffering applications

Lyrtech

4495 Wilfrid-Hamel Blvd., Suite 100
Quebec, PQ G1P 2J7 Canada
Tel: 418-877-4644 • Fax: 418-877-7710

SignalMaster Qd.C6416

www.lyrtech.com

The SignalMaster™ Quad-TMS320C6416/Dual-VIRTEX-II based board is one of the most flexible CompactPCI (or standalone) C6xTM-based architectures. This board consists of two clusters containing two TMS320C6416™ DSPs and a Virtex-II® FPGA. Each cluster can deliver up to 216000 MIPS of DSP processing power and up to 8 Million Gates, therefore providing a total of 32,000 MIPS of DSP power and 16 Million Gates.

FEATURES:

- Supports Code Composer Studio from TI and ISE Foundation from Xilinx for low-level development
- Access to a broad range of I/O boards: high-speed 0-105MHz, multichannel 0-105MHz, audio, video, and more
- Onboard JTAG interface enabling DSP emulation from the host PC
- Fast system-level implementation using Simulinx/Xilinx System Generator to generate executable DSP/FPGA code
- High-level block sets provide control for the onboard I/O interfaces
- Communication interface enables interactive parameter modification without interrupting the DSP application

For more information, contact info@lyrtech.com.

RSC #9701 @www.compactpci-systems.com/catalogrsc

Carlo Gavazzi Computing Solutions

10 Mupac Drive
Brockton, MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

FabricPac Platform

www.gavazzi-computing.com

The FabricPac 2.16 Packet Switch Fabric Ready Platform is a rackmount/benchtop platform that can be configured to meet your CompactPCI Packet Switch Fabric needs. This system comes complete with an Intel Pentium III CompactPCI SBC, Layer 2 or 3 switch card, EIDE hard drive, CD, floppy drive, and your choice of memory and OS. The FabricPac takes all these components and wraps them into a NEBS-ready enclosure that is 19" (W) by 14" (H) by 12" (D).

At the heart of the system is an eight-slot, 2.16 Packet Switch-compliant backplane. The chassis is designed to support hot swap, N+1 350W front pluggable power supplies with AC or DC input.

FEATURES:

- 2.16 Packet Switch-compliant, eight-slot backplane with CompactPCI, H.110, and IPMB buses
- 8HP Intel® Pentium® III Processor SBC
- Hard drive, CD, and floppy
- Your choice of OS (Windows 2000, Windows NT, Linux, or Solaris)
- Your choice of memory
- Layer 2 or 3 switch card

For more information, contact gavazzi@mupac.com.

RSC #9702 @www.compactpci-systems.com/catalogrsc

AP Labs
16868 Via Del Campo Court
San Diego, CA 92127
Tel: 858-674-2850 • Fax: 858-674-2869

AP Labs

FS-5973 3U cPCI Conduction Cooled Chassis

www.aplabs.com

The FS-5973 is a forced-air, conduction-cooled chassis designed for use in avionics environments. Specifically, the FS-5973 chassis meets the environmental requirements of MIL-E-5400 for Class 1 equipment and will withstand extremes of temperature, vibration, shock, salt spray, sand, and chemical exposure while maintaining a sealed environment.

Mounting and cooling
The FS-5973 chassis is designed to adapt to existing ARINC style equipment mounting trays or it can be configured with a number of application driven mounting options, including hard mounted or shock mounted.

The FS-5973 chassis provides a secure enclosure for conduction-cooled circuit cards. The heat from the chassis internal system components is conducted to side-wall heat exchangers where it is dissipated to the ambient environment by forced-air cooling. The FS-5973 chassis is available with an integral DC fan or with an air-plenum to use with an external forced air supply.

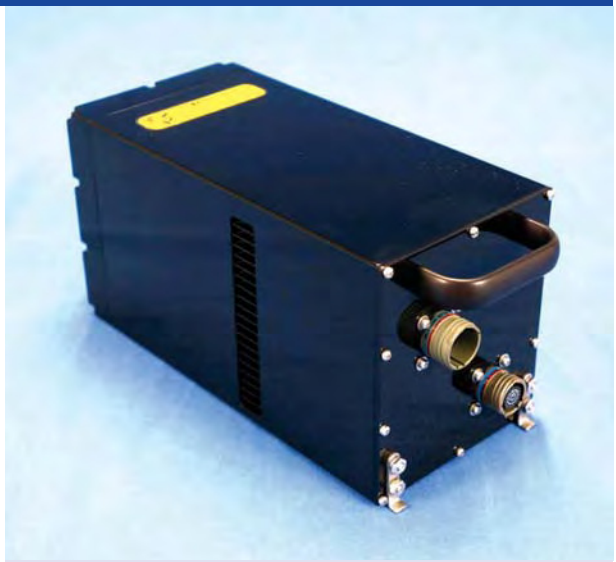
Slot configuration
CompactPCI boards and the PSU are loaded from the rear of the chassis. The FS-5973 supports one system slot and four spare CompactPCI slots for I/O and peripherals. A dedicated power supply slot supports a blind mating power supply unit.

CompactPCI backplane configuration:
- 5 slots to PICMG 2.0 R3.0
- 32-bit data width
- 66 MHz operation
- Configurable 3.3V or 5V
- Rear I/O through J2
- CompactPCI slot keying utilization
- Pluggable PSU slot through Positronic P47 connector

Chassis customization is available to meet customer specifications, including outline and mounting, I/O wiring, I/O panels, custom backplanes, environmental and thermal compliance, and power supplies.

For more information, contact sales@aplabs.com.

RSC #98 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Small form factor CompactPCI-based rugged chassis 4.88" (W) x 5.59" (H) x 11.46" (D)
- Weight 9 lbs. (4.09Kg) – includes enclosure, backplane, and power supply
- Five conduction cooled 3U slots to IEEE 1101.2, .8" pitch – System slot, four spare slots for I/O and peripherals
- Meets MIL-STD-5400 Class 1 thermal performance
- Storage temperature: –62°C to –95°C
- Operating temperature: –55°C to +55°C at SL; –55°C to +20°C at 50KFt. (with mil-aero fan)
- Vibration: Per MIL-STD-810E, 0.1 g2/Hz, 15-2KHz (without shock tray)
- Shock: MIL-STD-810E 20 g, 6-9 ms, half sine wave (without shock tray)
- EMC: Per MIL-STD-461C; CE01, CE03, CS02, CS06, RE02, RS01, RS02, RS03
- Enclosure: Watertight MIL-STD-108E
- Input: 18 to 48 VDC; DC Output: +5V 9A, 3.3V 5A, +12V 0.5A, –12V 0.5A, current limiting
- Input transient protection: Meets or exceeds MIL-STD-704A, MIL-STD1275A; overvoltage shutdown with auto-recovery

Dawn VME Products

47915 Westinghouse Drive
Fremont, CA 94539
Tel: 510-657-4444 • Fax: 510-657-3274

Model 4100

www.dawnvme.com

Model 4100, Dawn's newest portable development chassis, combines light weight and portability with flexibility and many features. Included in this product is Dawn's new programmable RuSH™ System Health Monitor that monitors temperature, fan speed, output voltages, and digital/analog I/O.

Backplane options include an eight-slot CPCI 2.1 or 2.16 PSB, the latter with two fabric and six node slots. Model 4100 may also be ordered with an eight-slot VME64x, VITA 31, or 41 (VXS) backplane.

Power systems include a single 400W or dual 200W units. The latter, when ordered with a split backplane, turns Model 4100 into the perfect portable test/burn-in chassis. Many configurations are stocked. Call for price.

For more information, contact sales@dawnvme.com.

RSC #9901 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Lightweight, portable, eight-slot development system
- Built-in system monitoring via Dawn's exclusive Model 426 RuSH™ technology and PLED display
- Choice of CPCI 2.1 or 2.16 backplanes
- Optional VME64x and VITA backplanes
- Single or dual power supply configurations
- Rear 80mm transition module card cage is standard

Hybricon Corporation

12 Willow Road
Ayer, MA 01432
Tel: 1-877-HYBRICON • Fax: 978-772-2963

8U RME821 Enclosures

www.hybricon.com

Hybricon Corporation's ruggedized 8U rackmount enclosures provide robust cooling in a compact stackable design for vertically mounted cards. The high-performance cooling option supports demanding high power applications, delivering 310 LFM per slot, sufficient cooling for 60 watts per slot. Custom versions are available with cooling up to 100 watts per slot.

The RME821 enclosures are available in either military or commercial versions. The military version is designed to meet MIL-STD-461 EMI radiated and conducted emissions and susceptibility standards by using gasketing at all seams and 1" thick honeycomb panels at both air intake and exhaust openings.

For more information, contact info@hybricon.com.

RSC #9902 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Cooling up to 100 watts per slot
- 21-slot CompactPCI, VME64x, VME, or VXS backplanes
- High quality ruggedized construction
- Easy migration from commercial version to deployable military version
- Up to 2100 watts of power
- Custom configurations and integration services available

Hybricon Corporation

12 Willow Road
Ayer, MA 01432
Tel: 1-877-HYBRICON • Fax: 978-772-2963

High Power Towers

www.hybricon.com

Hybricon Corporation's new nine-slot portable towers (the Cool-H Series) are designed for today's high-power boards. The power dissipation levels of today's high-power VITA 1.7 VME64x, VXS, and CompactPCI switch fabric boards have increased from the 50-60W range to the 75-100W range. Up until now, these 75-100W boards could only be adequately cooled in high-performance, full-sized rack mount enclosures, but thermal analysis shows that this can now be accomplished in Hybricon's portable tower style enclosure, which has an average air-flow of 17.9 CFM (670 LFM) per front slot, sufficient to cool up to 100 watts per slot.

FEATURES:

- Cooling up to 100 watts per slot
- Eight-slot CompactPCI or VITA 1.7 VME64x switch fabric backplanes
- High-quality construction in a lightweight portable design
- Up to 800 watts of power
- Front-access peripheral module with provisions for mounting CD-ROM, hard disk, and floppy drives
- Custom configurations and integration services available

For more information, contact info@hybricon.com.

RSC #10001 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide
Enclosures

Kaparel Corporation, A Rittal Company

97 Randall Drive
Waterloo, ON N2V 1C5 CA
Tel: 519-725-0101 • Fax: 519-725-0414

Slim-Box

www.kaparel.com

Rittal/Kaparel's Slim-Box solution is a cost effective family of 19" horizontal rack-mounted enclosures developed for CompactPCI® and VMEbus carrier grade, telecom, Internet, and embedded control applications. This high-density platform houses 6Ux160 mm front computer boards, 6Ux80 mm rear I/O boards, and hot pluggable power supplies, and also provides maximum cooling. Slim-Box is a compact, high-performance solution available in 1U 2-Slot, 2U 4-Slot, 3U 6-Slot, and 4U 8-Slot designs.

DC cooling configured from left to right, delivering a standard solution wired and tested with a 6U CompactPCI® or VME64x monolithic backplane with integrated power supply backplane. Custom solutions are also available.

FEATURES:

- High-performance DC fans (optional speed control and fail signal)
- AC or DC hot-swap redundant power supplies (2U, 3U, 4U)
- Integral Monolithic CompactPCI® or VME64x backplanes
- Bays available for drives and media devices (2U, 3U, 4U)
- 6U filler panels for system and I/O slots
- 3U filler panels for unused power supply slots (drive bays and/or open frame power supplies)

For more information, contact info@kaparel.com.

RSC #10002 @www.compactpci-systems.com/catalogrsc

One Stop Systems

2235 Enterprise Street
Escondido, CA 92029
Tel: 877-438-2724 • Fax: 760-745-9824

11U High Capacity Enclosure

www.onestopsystems.com

This 11U, 21-slot enclosure provides maximum power and slot capacity for high-density applications. A 2,000-watt, high-efficiency power supply provides plenty of power for the most power-hungry application cards. The technologically advanced cooling system consisting of four fans and four blowers offers the airflow required to cool more than 90 watts of available power per slot. The enclosure supports many combinations of segmented, monolithic, or custom backplane designs for CompactPCI, CompactPCI Express, VME, or VXI buses. An optional system monitor and alarm board with Java-based monitoring software is available for remote monitoring of vital system functions.

FEATURES:

- 11U x 12" deep, 19" rack mount enclosure
- 21-slot backplane available in CPCI, PICMG 2.16, CompactPCIe, VME, VXI, or custom buses
- 2000-watt AC or DC input, high capacity power supply
- Up to 90 watts of cooling per slot
- Superior cooling design with four fans up to 150 cfm each and four blowers at 40 cfm each
- Available Internet accessible, Java-based system monitoring and alarm system

For more information, contact sales@onestopsystems.com.

RSC #10101 @www.compactpci-systems.com/catalogrsc

Enclosures
CompactPCI® and AdvancedTCA® Systems Resource Guide

Performance Technologies

205 Indigo Creek Drive
Rochester, NY 14626
Tel: 585-256-0200 • Fax: 585-256-0791

Advanced Managed Platforms

www.pt.com

Our Advanced Managed Platforms offer the most complete set of high availability, system management, switching, power, and cooling features available.

Equipped with a PICMG® 2.9-compliant intelligent shelf manager, the platform architecture manages all chassis elements as well as third-party, PICMG 2.16-based components. Bundled with the industry's broadest line of Ethernet switches and high-density power supplies, the Advanced Managed Platform offering provides equipment manufacturers and system integrators the basis to go beyond 5-nines availability while handling the high performance requirements of next-generation systems.

FEATURES:

- Intelligent and comprehensive shelf management throughout all active components
- High availability and fault tolerance built into active components and power architecture
- World-class switching
- Advanced power and cooling for next-generation, high-performance computing components
- Compatibility throughout our entire line of embedded packet products
- Flexible and scalable to support a wide range of communications or embedded applications

For more information, contact info@pt.com.

RSC #10102 @www.compactpci-systems.com/catalogrsc

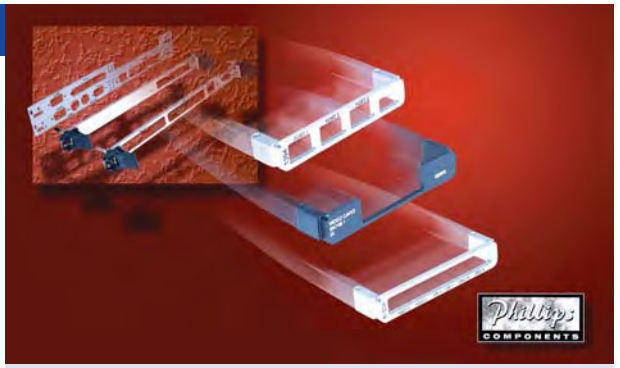
Phillips Components, Inc.

23142 Alcalde Drive, Suite A
Laguna Hills, CA 92653
Tel: 800-899-4263 • Fax: 949-583-9337

VME, CPCI Panels, PMC

www.phillipscomponents.net

Phillips Components has been in business since 1976 and is a leader in the fabrication of VME, PMC, PCI, and CPCI panels as well as a large line of ejectors, extractors, pullers, and card guides. We are a one-stop shop. We customize, grain, plate, silk-screen, and assemble the entire panel for you. We have great lead times and customer service!



FEATURES:

- VME panels and hardware
- CPCI panels and hardware
- PMC bezels
- PCI brackets
- Ejectors – card guides
- Custom molding

For more information, contact info@phillipscomponents.net.

RSC #10201 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide

Front panel hardware

Purcell Technologies, Inc.

161 Sand Creek Road
Brentwood, CA 94513
Tel: 925-513-4200 • Fax: 925-513-1370

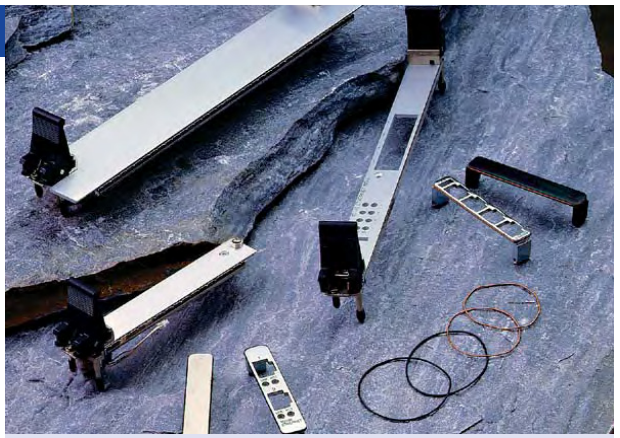
cPCI, PMC, PCI Panels

www.purcelltech.com

Purcell Technologies takes great pride in being a leading manufacturer of CompactPCI, PMC, and PCI I/O panels and brackets for the embedded, network, and personal computing industries.

A one-two punch of volume production, utilizing progressive stamping, die-casting, injection molding, and extrusion tooling combined with state-of-the-art prototyping, utilizing CNC milling and laser cutting provides our customers with cost effective, quality controlled hardware solutions delivered worldwide and on time.

We are a certified ISO 9001 company and committed to compliance with all environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) directive.



FEATURES:

- CompactPCI panels, ejectors, and hardware
- PMC bezels, gaskets, and filler plates
- PCI brackets and retainers
- ATX I/O shields
- Board stiffeners
- Custom metal fabrication

For more information, contact info@purcelltech.com.

RSC #10202 @www.compactpci-systems.com/catalogrsc

XTech
80 Trim Way
Reading, MA 02368
Tel: 781-963-7200 • Fax: 781-963-7203

We Think Outside the Box
So You Can Think In It

Compact PCI front panels from XTech

www.xtech-outside.com

XTech, a full service, on-demand supplier for every packaging need, offers a comprehensive line of both standard and customized CompactPCI front panels.

The line features multiple options for configuring a variety of embedded electronics systems. XTech offers a variety of compatible components, such as ejectors, handles and gaskets. Using its own extrusion and finishing equipment, XTech can also design, finish, and assemble fully customized, affordable variations to standard specifications.

XTech has in-house equipment and capacity to handle orders of any size, which enables turnaround for orders in just a few weeks. It also enables greater affordability for prototypes or production units. XTech also provides full support for transitioning your product through its entire life cycle.

Made from extruded aluminum, XTech CompactPCI panels are lightweight and feature unmatched EMI/RFI shielding. With punch tooling and CNC machining, XTech adds cutouts for connectors, hoods, or LED configurations.

XTech also supplies finger stock or foam gaskets, ejectors of any type, and board mounts. The firm offers multiple finishing options, including silk screening and overlays, as well as chromating, anodizing, and painting.

FEATURES:

- Extra-fast turnaround to meet tight deadlines
- Exceptional RFI/EMI shielding
- Extensive design, finishing, labeling, and assembly capabilities
- Custom cut-outs for all types of connectors, LEDs, and optics
- Compatible with chassis from all major manufacturers
- Finishing: anodizing, painting, silk screening
- Custom-sized anything! Any width! Any length!
- When "off-the-shelf" won't do, we design, finish, and assemble fully customized affordable variations
- Includes gaskets in finger stock or foam, as well as components such as board mounts
- Multiple finishing options include silk screening and overlays
- Full support for transitioning product through its life cycle

For more information, contact inquiry@xtech-outside.com.

RSC #103 @www.compactpci-systems.com/catalogrsc

Kontron
6260 Sequence Drive
San Diego, CA 92121
Tel: 888-294-4554 • Fax: 858-677-0898

CompactPCI – CP6000, CP6010, CP6011

www.kontron.com/atca

Kontron offers a full range of CompactPCI products – CPU blades, chassis, and mezzanine cards – with advantageous features ideally suited for telecommunication, data communication, and industrial automation and control applications.

CP6000

The Kontron CP6000 features an Intel® Pentium® M up to 2.0 GHz (755), and combines the low power/high performance features of Intel's Mobile Pentium M processor with the 855GME chipset. Its compact design integrates Intel's latest I/O Controller Hub technology for lower levels of heat dissipation and lower system requirements and integration costs.

CP6010

The Kontron CP6010 features an Intel® Dual Xeon™ Low Voltage System/Peripheral CPU up to 2.4GHz, and is unquestionably the most powerful CompactPCI CPU engine you can build your application around. Combined with a large maximum memory capacity of 8GB and a high I/O throughput chipset, this board is designed to meet the requirements of the most demanding applications.

CP6011

The Kontron CP6011 features an Intel® Pentium® M up to 1.8 GHz System/Peripheral CPU, and is intended for applications calling for distributed high processing capabilities and tremendous I/O throughput supported by an Intel E7501 server chipset. Increase your flexibility with dual PMC slots with up to 64-bit/133MHz PCI-X interface and PIM support.

FEATURES:

CP6000

- Intel Pentium M up to 2.0GHz (755), LV 1.1/1.4GHz (passive cooling)
- Up to four GigE ports (2x at the front, 2x for full PICMG 2.16)
- Up to 2GB PC333 SDRAM with ECC via 2x 200-pin SODIMM sockets

CP6010

- Dual Low Voltage Xeon at 1.6GHz, 2.0GHz, or 2.4GHz, and up to 8GB of DDR RSDRAM
- External CompactPCI bus up to 64-bit/133MHz
- PMC expansion slot at 64-bit/133MHz

CP6011

- Intel Pentium M processor up to 1.8GHz and LV Pentium M up to 1.4GHz
- Maximize I/O throughput with Intel E7501 server chipset
- Increase your flexibility with dual PMC slots with up to 64-bit/133MHz PCI-X interface and PIM support

For more information, contact sales@us.kontron.com.

RSC #104 @www.compactpci-systems.com/catalogrsc

Fastwel Co. Ltd
108 Profsoyuznaya str.
Moscow, 117313 RU
Tel: +7(095)-234-0639 • Fax: +7(095)-232-1654

CPC502

www.fastwel.com

CPC502 boards utilize the latest embedded Intel 855GME chipset and Hance Rapid ICH. They support both high-performance CPUs, the Intel Pentium M 755 (2.0GHz), and the low-power Celeron M. The boards combine PICMG 2.0 R3.0 and PXI 2.1 for compatibility, providing high versatility for system integrators. CPC502 boards work in harsh environments, including an industrial temperature range from –40°C to +85°C (with Pentium 1.6 GHz). CPC502 boards come with CPU, SDRAM, and a 32 Mbyte Flash disk soldered onboard. Great reliability is achieved by using watchdog, hardware monitor, and power management technologies. All boards undergo testing. The guarantee period is three years. CPC502 boards provide high performance to industrial and control applications.

For more information, contact info@fastwel.com.

RSC #10501 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Processor: Intel® Pentium® M up to 2.0 GHz chipset; 82855GM/GME GMCH and Hance Rapid ICH
- System memory: up to 1 Gb PC333 DDR SDRAM with ECC
- VGA: Analog display support up to 2048 x 1536 @ 75 Hz and LVDS TFT panel supports; Ethernet: 2x10/100/1000 Mb/s
- Audio is AC'97 2.3-compliant; USB with four ports – 2.0 serial ATA, two channels; CF™/Microdrive™ socket onboard
- Solid State Disk with 32Mb (up to 1Gb) with Fastwel FFS; Four serial ports; hot-swap compatibility
- CompactPCI bus interface: PICMG 2.0 Rev. 3.0 compatible; PXI hardware specification – Rev. 2.1 system master only

Concurrent Technologies

3840 Packard Road
Ann Arbor, MI 48108
Tel: 734-971-6309 • Fax: 734-971-6350

Dual PMC, Pentium M, SBC

www.gocct.com

The PP 312/01x is an established, high-performance dual PMC CompactPCI board supporting the Intel Pentium M processor, up to 2.0 GHz (2 Mbytes L2 Cache).

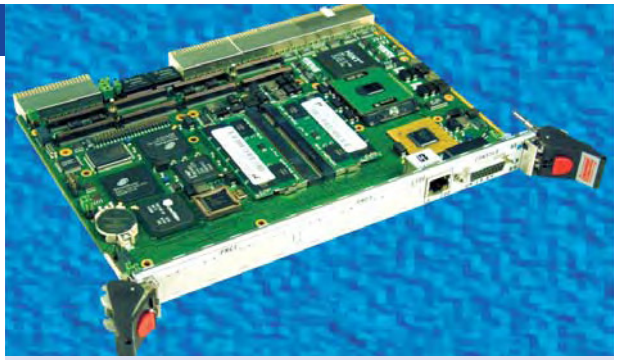
As well as two 66 MHz PMC sites, the board supports dual Gigabit Ethernet (on a PCI 64bit/66MHz bus), PICMG 2.16, IPMI PICMG 2.9, and hot swap PICMG 2.1.

Offering a range of I/O features – EIDE, VGA, keyboard, mouse, USB, RS-232, 64 Mbytes application Flash, 512 Kbytes NVSRAM, RTC – the PP 312/01x is suitable for high-performance applications within the telecom, industrial control, telemetry, scientific, and aerospace markets.

To simplify the board's integration, many popular operating systems are supported including Windows, Linux, VxWorks, and QNX.

For more information, contact info@gocct.com.

RSC #10601 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Up to 2.0 GHz Intel Pentium M processor (2 Mbytes L2 cache)
- Up to 2 Gbytes DDR ECC DRAM
- Dual PMC sites (via PCI 32/64-bit @ 33/66MHz bus), 3.3V or 5V signaling
- PICMG 2.16, supports dual Gigabit Ethernet interfaces (via PCI 64-bit/66MHz bus)
- IPMI PICMG 2.9 and Hot-Swap PICMG 2.1
- Optional extended operating temperature version (1.1GHz): –25°C to +70°C

CompactPCI® and AdvancedTCA® Systems Resource Guide
Hot swap boards

Embedded Planet

4760 Richmond Road, Suite 400
Warrensville Heights, OH 44128
Tel: 216-245-4180 • Fax: 216-292-0561

EP970I (Avail Q3 '05)

www.embeddedplanet.com

The EP970I uses the IBM 970FX to create a powerful CompactPCI card ready for you to design, develop, and deploy advanced embedded systems. The 970FX PowerPC enables you to seamlessly migrate from 32-bit to 64-bit applications. It can execute 32-bit applications with no slowdown, while simultaneously enabling the full power of a native 64-bit environment. The EP970I integrates this computing power with a full complement of peripherals into a 6U CompactPCI form factor ready for your system. Each EP970I includes Planetcore firmware with multiple OS options available, allowing you to focus on your application. Like all Embedded Planet products, the EP970I can be custom configured to meet your requirements.

For more information, contact info@embeddedplanet.com.

RSC #10602 @www.compactpci-systems.com/catalogrsc

FEATURES:

- IBM 970FX operating at up to 2 GHz and Marvell MV64470, with up to 3GB DDR SDRAM, 512MB Flash, and 512kB NVRAM
- Operating modes: Configurable as a system slot or peripheral slot card
- Connectivity: Three 10/100/1000Base-T Ethernet ports (one front panel, two backplane), two RS-232 ports, JTAG debug
- Serial I2C devices: EEPROM, temperature sensor, real-time clock
- Expansion: Standard CompactPCI 6U interface, 2 PMC sites, hot swappable PCI/PCI-X on CompactPCI backplane, CompactFlash interface
- Support: PlanetCore firmware (bootloader, Flash programmer, and diagnostics), Linux and VxWorks BSPs

Delivering new life to your network...

Plug SBE's TCP/IP Offload Engine (TOE) into your system to see the performance boost for yourself...

All TOEs should process TCP/IP at network speeds, provide full segmentation and assembly, terminate multiple simultaneous sessions, and minimize transaction latency, without host intervention. However, not all TOEs are alike...depending on the individual manufacturer's target market, the devices vary in their ability to fully handle these essential criteria.

Adding a TOE to your existing system is only cost-effective if it can truly heighten performance at a fraction of the cost of purchasing an additional server. Let results speak for themselves. Only one TOE board has proven to provide peak performance across all four metrics of TOE effectiveness. While other TOE vendors are capable of satisfying one, two or maybe three of the critical TOE performance metrics, SBE is today's only source to deliver Gigabit Ethernet throughput at line rate, over 70% reduction in CPU utilization, 32 microsecond transaction latency, and support for high session count applications, all on one board.

See the results for yourself...

Contact us to qualify for a free test drive of the SBE TOE board. Plus, ask about how to win an iPOD® mini.*

Phone: 800-214-4723
Email: info@sbei.com
Web: www.sbei.net/tryTOE.htm

SBE®

Linux On Demand

flexibility on demand | 925-355-2000 | info@sbei.com | www.sbei.com

* Restrictions apply. While supplies last. iPOD mini is a registered trademark of Apple Computer, Inc. All rights reserved. Apple is not a participant or sponsor of this promotion.

RSC# 107 @www.compactpci-systems.com/rsc

Red Rock Technologies, Inc.

14429 N. 73rd Street
Scottsdale, AZ 85260
Tel: 480-483-3777

RRTC-1SHA-LW

www.RedRockTech.com

Red Rock Technologies' model RRTC-1SHA-LW provides a transparent interface from the Ultra Wide SCSI LVD bus to 2.5" ATA hard drives.

Capacities of up to 360GB are available in a single 6U CompactPCI slot. Drives are addressable as one large disk or may be accessed as separate SCSI logical units. SCSI bus signals are available at J5 and front panel connectors. Only power is taken from the CompactPCI bus.

These modules provide a high-capacity field replaceable unit capable of withstanding higher shock and vibration environments.

SCSI termination is provided with the unit. The SCSI interface is fully configurable for 8-bit, single-ended, and SCSI-2 compatibility.

For more information, contact info@redrocktech.com.

RSC #10801 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Capacity of up to 360GB
- CompactPCI form factor occupying one 6U slot
- Ultra Wide SCSI LVD interface available at front panel and J5 connectors
- Can be configured for 8-bit, single-ended, and/or SCSI-2 operation, thus supporting legacy systems
- Front panel status and activity LEDs
- Rear Transition Module available

CompactPCI® and AdvancedTCA® Systems Resource Guide

Mass storage

Red Rock Technologies, Inc.

14429 N. 73rd Street
Scottsdale, AZ 85260
Tel: 480-483-3777

RRTC-1SFA-LW

www.RedRockTech.com

SCSI Flash drive

Red Rock Technologies' RRTC-1SFA-LW provides a transparent interface from the Ultra Wide SCSI LVD bus to 2.5" ATA Flash drives. Capacities of up to 96GB are available in a single 6U CompactPCI slot. Drives are addressable as one large disk or may be accessed as separate SCSI logical units. SCSI bus signals are available at J5 and front panel connectors. Only power is taken from the CompactPCI bus.

These modules provide a high capacity field replaceable unit capable of withstanding higher shock and vibration environments.

SCSI termination is provided with the unit. The SCSI interface is fully configurable for 8-bit, single-ended, and SCSI-2 compatibility.

For more information, contact info@redrocktech.com.

RSC #10802 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Capacity of up to 96GB; no additional software is required for operation as a SCSI bootable drive
- CompactPCI form factor occupying one 6U slot
- Ultra Wide SCSI LVD interface available at front panel and J5 connectors
- Can be configured for 8-bit, single-ended, and/or SCSI-2 operation, thus supporting legacy systems
- Front panel status and activity LEDs
- Rear Transition Module available

Red Rock Technologies, Inc.
14429 N. 73rd Street
Scottsdale, AZ 85260
Tel: 480-483-3777

RRTC-1SP-LW

www.RedRockTech.com

SCSI to PCMCIA adapter

The adapter provides a transparent interface from the Ultra Wide SCSI LVD bus to removable PCMCIA storage devices and optionally to a fixed 2.5" ATA Flash or hard drive. PCMCIA devices and optional 2.5" drive may be accessed as separate SCSI logical units. SCSI bus signals are available at J5 and front panel connectors. Only power is taken from the CompactPCI bus.

These modules provide a high-capacity field replaceable unit capable of withstanding higher shock and vibration environments.

SCSI termination is provided within the unit. The SCSI interface is fully configurable for 8-bit, single-ended, and SCSI-2 compatibility.

For more information, contact info@redrocktech.com.

RSC #10901 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Two hot-swappable PCMCIA card slots plus two optional 2.5" fixed ATA Flash or hard drive
- CompactPCI form factor occupying one 6U slot
- Ultra Wide SCSI LVD interface available at front panel and J5 connectors
- Can be configured for 8-bit, single-ended, and/or SCSI-2 operation, thus supporting legacy systems
- Front panel status and activity LEDs
- Rear Transition Module available

Mass storage
CompactPCI® and AdvancedTCA® Systems Resource Guide

Red Rock Technologies, Inc.
14429 N. 73rd Street
Scottsdale, AZ 85260
Tel: 480-483-3777

RRTC-1DVW-LW

www.RedRockTech.com

SCSI DVD-RW drive

This module provides a transparent interface from the Ultra Wide SCSI LVD bus to the low-profile DVD-RW ATAPI interface drive. Modes of operation include DVD-RW, DVD-ROM, CD-RW, CD-R, and CDROM. The DVD-RW drive may be accessed as a standard SCSI device. SCSI bus signals are available at J5 and front panel connectors. Only power is taken from the CompactPCI bus.

These modules provide a high-capacity field replaceable unit for removable DVD-RW, DVD, CD-RW, and CDROM media.

SCSI termination is provided within the unit. The SCSI interface is fully configurable for 8-bit, single-ended, and SCSI-2 compatibility.

For more information, contact info@redrocktech.com.

RSC #10902 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Enables usage of removable, rewritable, durable DVD-RW and CD-RW media in the field
- CompactPCI form factor occupying one 6U slot
- Ultra Wide SCSI LVD interface available at front panel and J5 connectors
- Can be configured for 8-bit, single-ended, and/or SCSI-2 operation, thus supporting legacy systems
- Front panel status and activity LEDs
- Rear Transition Module available

SANBlaze Technology, Inc.
2 Clock Tower Place, Suite 550
Maynard, MA 01754
Tel: 978-897-1888 • Fax: 978-897-3171

SB-USB-DVD Blade

www.sanblaze.com

CompactPCI USB 2.0 storage blade

The SANBlaze SB1-USB family of CompactPCI storage blades provides embedded systems designers the flexibility to add in-chassis storage options utilizing USB2.0 as the interconnect.

The SB1-USB family offers removable drive options in both DVD and CD formats, as well as fixed drive options. Connectivity via USB2.0 is provided via front panel connection or rear panel via a Rear Transition Module (RTM).

The SB1-USB-DVD blade, with both DVD and CD options, accommodates in-chassis software load functionality and removable storage capabilities.

Adding a hard drive onto the blade adds the ability to have fixed storage, providing in-chassis boot capability.

For more information, contact info@sanblaze.com.

FEATURES:

- USB 2.0 connectivity
- Multiple configuration options; connectivity via front panel or Rear Transition Module (RTM)
- DVD-R/RW and CD-R/RW options
- Single or dual HDD providing 20GB to 160GB of storage
- 6U single-slot CompactPCI format
- IPMI support

RSC #11001 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide

Mass storage

SANBlaze Technology, Inc.
2 Clock Tower Place, Suite 550
Maynard, MA 01754
Tel: 978-897-1888 • Fax: 978-897-3171

SB-SCSI Raid Blade

www.sanblaze.com

CompactPCI SCSI Raid Blade

The SANBlaze SB-SCSI CompactPCI SCSI blade provides CompactPCI system designers the flexibility to add in-chassis storage options utilizing enterprise class storage technologies such as SCSI drives and Raid.

The SB-SCSI Raid Blade provides single or dual SCSI drives in a single- or dual-slot CompactPCI form factor. Multiple blades can be daisy chained providing expandability and redundancy options previously unavailable to CompactPCI system designs.

When using a SANBlaze SB-PMC320 PMC SCSI adapter connected to two SB-SCSI blades, the system could build a mirrored set across two separate hot swappable boards, providing storage redundancy at both the disk and board level, for example.

For more information, contact info@sanblaze.com.

FEATURES:

- Single or dual SCSI drive options with SCSI Ultra320 support
- In/out high-density SCSI connectors support daisy chaining with auto-termination
- 36GB to 146GB of storage in a 6U, single- or dual-slot CompactPCI form factor
- Can provide Raid 0 (striping) and Raid 1 (mirroring) functionality
- Hot swappable, IPMI support
- Removable hot-swap drive version available

RSC #11002 @www.compactpci-systems.com/catalogrsc

Aculab

421 Oak Avenue
Panama City, FL 32401
Tel: 850-763-9281 • Fax: 850-763-1113

Prosody CompactPCI

www.aculab.com/cpci

Prosody cPCI presents integrators with the highest density and widest range of media processing functions. One Prosody card occupying a single slot delivers up to 256 channels of media processing resources and up to 124 E1/T1 bearer channels – hot swapable. Digital network access support and Aculab's range of protocols and approvals make solutions ideal for international deployment.

Media processing resources include: Group 3 fax, record/playback, matrix conferencing, echo cancellation, DTMF tone detection, isolated word speech recognition and data transmission protocols – all accessible via a single, generic API, allowing the development of versatile and cost effective solutions.

For more information, contact info@aculab.com.

RSC #11101 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Prosody digital signal processor (DSPs) options on base card
- Comprehensive range of media processing resources under a cost free licence
- Optional trunk module; 1, 2 or 4 E1/T1 (software selectable); up to 124 speech channels
- Wide range of approvals and protocol coverage including: ETS300, Q.SIG, T1 PRI, SS7, and many variants of CAS
- NEBS Level 3 compliance
- Passive rear transition module (4 RJ-45/RJ-48C) via J5 connector

Ballard Technology

3229A Pine Street
Everett, WA 98201
Tel: 425-339-0281 • Fax: 425-339-0915

OmniBus cPCI

www.ballardtech.com

Ballard's OmniBus cPCI avionics databus interface sets a new standard for flexibility and power. It is available with multiple dual-redundant MIL-STD-1553 databuses (up to four) or with a mix of protocols (1553, ARINC 429/708/717, serial RS-422, etc.) and is suitable for a broad range of applications, from simple to complex. Extensive simulation, monitoring, and testing capability are provided through our powerful CoPilot GUI software and easy-to-use API's.

An onboard PowerPC® processor can be programmed by the user to off-load or run independently of the host system processor. The OmniBus cPCI can run locally through the backplane, or as a standalone device from user code embedded on the PowerPC.

For more information, contact sales@ballardtech.com.

RSC #11102 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Up to four dual-redundant MIL-STD-1553 buses
- Single and multi-terminal modes
- BC, 32 RTs, bus monitor, advanced error injection
- IRIG time-tags and synchronization
- PowerPC user processor
- Also available in PCI, VME, or as an Ethernet/USB server

Condor Engineering
101 West Anapamu Street
Santa Barbara, CA 93101
Tel: 805-965-8000 • Fax: 805-963-9630

QCP-1553 – MIL-STD-1553 cPCI Interface

www.condoreng.com

Condor's QCP-1553 provides new levels of performance and flexibility for MIL-STD-1553A/B Notice II in a CompactPCI form factor. Available in commercial, ruggedized, and 3U conductively cooled versions with one, two, or four dual-redundant channels, the QCP-1553 includes advanced Application Programming Interface (API) software that reduces application development time. Standard features include selectable transformer or direct coupling, 1 Mbyte of RAM per channel, 45-bit message time-tagging, triggers, extensive BC & RT link-list structures, error injection/detection, avionics-level discretes, automatic/manual RT Status Bit and Mode Code responses, along with advanced BC functionality. Variable output voltage is standard on multifunction boards. An IRIG-B signal Receiver/Generator is optionally available. With the highest speed encoder/decoder in the industry, the QCP-1553 Bus Monitor provides unparalleled error detection and 100% monitoring of fully loaded buses.

Multifunction interfaces

QCP-1553 multifunction interfaces are easily configured to operate with a simultaneous bus controller, 31 remote terminals, and bus monitor functionality.

Single-function interfaces

Single-function QCP-1553 interfaces have all the features and functionality of the multifunction versions, but only one major operational mode is enabled at a time. Each interface can emulate either a bus controller or 31 remote terminals or bus monitor.

Software

Condor provides our advanced 1553 API in source code, along with support for Windows XP, 2000, Me, NT, 98, 95, Red Hat Linux, VxWorks, and other operating systems. To access 1553 functionality without software development, BusTools/1553, Condor's MIL-STD-1553 bus analyzer, LabVIEW, and LabVIEW Real-Time support is optionally available.

FEATURES:

- One, two, or four dual-redundant bus MII-STD-1553 (channel) versions available
- Simultaneous bus controller, 31 remote terminals, and bus monitor
- High-level API for Windows XP, 2000, Me, NT, 98, 95, Red Hat Linux, and VxWorks included
- Optional LabVIEW and LabVIEW Real-Time support
- 66/33 MHz PCI bus operation and IRIG-B Rec (AM or DC/TTL) and/or Gen (DC) included
- Multifunction and single-function versions
- 45-bit, microsecond time-tagging and 1 Mbyte RAM per channel
- I/O triggering and error injection/detection
- Selective real-time playback and multiple RT buffers
- RT map monitoring and full error detection
- 18 Avionics-level discretes and universal voltage
- Programmable response time

For more information, contact sales@condoreng.com.

RSC #112 @www.compactpci-systems.com/catalogrsc

Pro-Dex/Oregon Micro Systems
1800 NW 169th Place, Bldg. C100
Beaverton, OR 97006
Tel: 503-629-8081 • Fax: 503-629-0688

CIX – Intelligent Multi-Axis Motion Control

www.pro-dex.com

The CIX is a CompactPCI four-axis motion controller that conforms to the PICMG 2.0 R 2.1 specification. The CIX is a one-to-four axis controller for either servo or stepping motors. It supports 14 general purpose bits; eight are opto-isolated and six are differential for optimum noise immunity. All of the control signals, other than the analog output, are differential signals including the step pulse, direction, home and over travel inputs. The architecture of the CIX includes a dual-port Ram for special functions where fast collection of large amounts of data is required, such as profile capture.

The servo output is a ±10V signal that is driven by a 16 bit DAC. The servo control loop is a PID filter with feed-forward coefficients. The step pulse is a TTL level, 50 percent duty cycle square wave that supports velocities of 0 through 1,044,000 pulses per second. The encoder feedback functionality supports quadrature encoders up to 4 MHz for servo feedback, as feedback for the stepper axes or as independent position feedback. The encoder feedback can provide slip or stall detection. Every axis includes dedicated ± over travel inputs, a home input, and an auxiliary output.

CIX motion controllers are easily programmed with dynamic link libraries or two and three character ASCII commands through an extensive command structure. The commands are combined into character strings to create sophisticated motion profiles and are passed to the CIX data I/O register. A separate FIFO command queue for each axis is used to store the parsed commands by the CIX until they are executed allowing the host to send a complex command sequence and attend to other tasks while the CIX manages the motion process. These command queues store 200 command and parameter words and include a command loop counter, which enables multiple executions of any command string.

FEATURES:

- One to four axes of Servo, Open Loop Stepper, or Closed Loop Stepper axis control options
- Standalone with high-speed RS-232 port
- 16 bit DAC analog resolution
- Configurable PID filter with feed forward coefficients
- Encoder feedback available for stepper axes
- Two limits, one home, and one auxiliary output are standard per axis
- Up to eight "user definable" I/O, expandable to 144 opto-isolated I/O
- Constant velocity linear interpolation (all axes)
- Software for Windows® 98/NT/2000/XP
- Electronic gearing
- Circular interpolation
- Linear, Parabolic, Cosine, and custom profiles

For more information, contact SalesOR@pro-dex.com.

RSC #113 @www.compactpci-systems.com/catalogrsc

Pro-Dex/Oregon Micro Systems
1800 NW 169th Place, Bldg. C100
Beaverton, OR 97006
Tel: 503-629-8081 • Fax: 503-629-0688

MAXp – Intelligent Multi-Axis Motion Contol

www.pro-dex.com

The new MAXp one-to-eight axes motion controller is compatible with current 5.0V PCI configurations and the 3.3V/5V Universal PCI bus. MAXp is built on a PowerPC 32-bit RISC processor running at 266 MHz. The use of this processor delivers exceptional servo control, capabilities, quality, and application performance on multi-axis requirements. All signals, data points, and the PID loop update every 122 µs on all eight axes. The MAXp also features 64k of shared memory permitting near real-time data transfer between the application program and the controller. Each axis of the MAXp controller can be configured as a servo, open loop stepper, or a closed loop stepper.

The advantages for you are: application performance, future expandability, and robust design; all carried out in an ISO 9001-2000 certified facility. The MAXp was developed with a surplus of capability, allowing MAXp to be customized to your individual request. Because most applications have unique requirements, the MAXp is the optimal choice. Applications requiring multi-axis motion control, including virtually any robot or automated machine, should use the MAXp controller.

MAXp motion controllers are easily programmed with dynamic link libraries or two and three character ASCII commands through an extensive command structure. These commands are combined into character strings to create sophisticated motion profiles and are passed to the MAXp data I/O register. A separate FIFO command queue for each axis is used to store the parsed commands by the MAXp until they are executed allowing the host to send a complex command sequence and attend to other tasks while the MAXp manages the motion process. These command queues store 200 command and parameter words and include a command loop counter, which allows multiple executions of any command string.

FEATURES:

- One to eight axes of control
- Servo, Open Loop Stepper, or Closed Loop Stepper axis control options
- PID update rate of 122 µs on all eight axes
- 266-MHz, 32-bit RISC processor
- 64k shared memory
- PCI universal bus – 3.3V or 5V
- 8 Mb system memory
- Four channels of general-purpose analog input, with 16 bit, ±10 VDC input
- Support Quadrate Encoder feedback up to 8 MHz
- Backlash compensation, circular interpolation, electronic gearing, real-time encoder position capture
- Linear, Parabolic, Cosine, "S"-curve, and custom profiles
- Firmware upgrades and enhancements

For more information, contact SalesOR@pro-dex.com.

RSC #114 @www.compactpci-systems.com/catalogrsc

AMTELCO XDS
4800 Curtin Drive
McFarland, WI 53558
Tel: 800-356-9224 OR 608-838-4194 • Fax: 608-838-8367

XDS CompactPCI Infinity Series Boards

xds.amtelco.com

The AMTELCO XDS CompactPCI Infinity Series Boards includes a number of boards to meet your specific application needs.

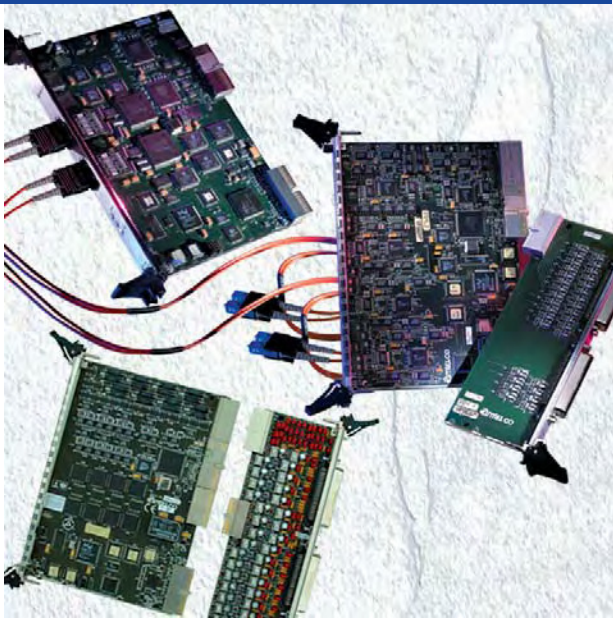
The XDS H.110 CompactPCI Infinity Series MC-3 Multi-Chassis Interconnect Boards allow you to connect 20+ PC chassis with 4800+ ports into a single system, with fully dynamic time slot switching between all chassis.

The XDS H.110 CompactPCI Infinity Series Analog Port Boards include High Density Loop Start Boards (16 and 32 ports), which come with Caller ID resources. The XDS High Density Station Port Boards function as an interface to analog telephones. The XDS E & M Boards have configurable ports with two or four-wire Type I or Type V signaling circuits, radio control circuits, and two or four-wire audio circuits. They also can be used to provide PC enhanced service links to PBXs for two-way DID service for analog radio interfaces and four-wire audio circuits.

The XDS H.110 CompactPCI Infinity Series BRI Boards support NI-1, NI-2, X.25, and international/Euro ISDN.

The XDS H.110 CompactPCI Infinity Series High Density 512-Port Conference Boards are ideal for larger conference applications with enhanced conferencing and flexible multi-conferencing facilities.

Software driver packages and service are included with all AMTELCO XDS boards.



FEATURES:

- Connect 20+ PC chassis with 4800+ ports into a single system with the XDS MC-3 Multi-Chassis Interconnect Boards
- XDS MC-3 Multi-Chassis Interconnect Boards provide fully dynamic time-slot switching between all chassis
- The XDS High Density Loop Start Board is available with either 16 or 32 ports, and includes Caller ID resources
- The XDS High Density Station Port Boards function as an interface to analog telephones
- The XDS E & M Boards have configurable ports, with two- or four-wire Type I or Type V signaling circuits
- XDS E & M Boards also have radio control circuits and two- or four-wire audio circuits
- Use XDS E & M Boards to provide PC enhanced service links to PBXs for two-way DID services, and more
- The XDS BRI Boards support NI-1, NI-2, X.25, and international/Euro ISDN
- The XDS High Density 512-Port Conference Boards are ideal for large conference applications
- The XDS High Density Conference Boards include enhanced conferencing and flexible multi-conferencing facilities

For more information, contact xds@amtelco.com.

RSC #115 @www.compactpci-systems.com/catalogrsc

Performance Technologies

205 Indigo Creek Drive
Rochester, NY 14626
Tel: 585-256-0200 • Fax: 585-256-0791

CPC324 TDM/IP Edge Processor

www.pt.com

The CPC324 Edge Processor is the most powerful and flexible access controller on the market. Scalable DSP/CPU processing via the PTMC sites combined with onboard TDM/IP switches make the CPC324 an ideal replacement for several lower density products currently being used in PICMG® 2.16 and PCI backplanes.

Offering 24 fully programmable T1/E1/J1 interfaces, the CPC324 offers a comprehensive design supporting voice, data, signaling, and monitoring applications all via one architecture. It is ideal for applications needing to handle large volumes of voice circuits for protocol processing or for transfer to the H.110 bus, PCI bus, Ethernet, or the onboard PTMC sites.

For more information, contact info@pt.com.

RSC #11601 @www.compactpci-systems.com/catalogrsc

FEATURES:

- PICMG® 2.16 or standard PCI bus operation
- 24 fully channelized T1/E1/J1 spans (768 software programmable channels)
- Onboard octal Gb Ethernet switch
- 667MHz PowerPC with L1/L2 cache
- NexusWare™ Core Linux-based development environment
- Built-in TCP acceleration hardware

CompactPCI® and AdvancedTCA® Systems Resource Guide
Network/communication interfaces

DSS Networks, Inc.

23 Spectrum Pointe, Suite 202
Lake Forest, CA 92630
Tel: 949-716-9051 • Fax: 949-716-9052

Model 5468 Switch

www.dssnetworks.com

The 5468 Switch is a compact, eight-port GigE switch on a highly integrated PMC mezzanine card form factor, featuring an innovative "4 + 2 + 2" switching design that is both unique and highly functional. It is designed to provide add-on GigE switching capabilities in a compact space. It has an integrated eight-port, Layer-2 device as the central switching function, a two-port PCI-X MAC host interface, an onboard control FPGA, and transceivers for the interconnect. The eight ports are routed as follows: four ports to RJ-45's on the PMC bezel, two ports to the host via the Gigabit MAC's PCI/PCI-X bus interface, and the remaining two ports routed as 1-Gb serdes to the I/O pins on the PMC JN4 connector.

For more information, contact sales@dssnetworks.com.

RSC #11602 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Fourth-generation BCM5388 Layer-2 switch; Intel 82546 dual-port PCI-X MAC host interface
- 133/100/66-MHz, 32/64-bit PCI-X bus interface; PMC-Sierra PM8363 quad gigabit serdes transceiver
- Onboard FPGA for management, control, and routing functions; high-performance wire speed on all ports, 16 Gb total
- Up to 16M frames per second maximum switching rate; onboard firmware for configuration, management, and monitoring
- 1.5 Mb of onboard memory for packet buffering; Extended Ethernet frame sizes to 9 KB; fully IEEE 802.3-compliant
- PCI Rev. 2.2 and PCI-X 1.0-compliant; VxWorks 5.5 and Linux 2.4.xx driver support; FCC certified (pending)

Innovative Integration

2655 Park Center Drive
Simi Valley, CA 93021
Tel: 805-520-3300 • Fax: 805-579-1730

cM6x Modular DSP

www.innovative-dsp.com

The cM6x offers high performance and extreme flexibility with Texas Instruments' TMS320C6x01 DSP and its wide range of I/O peripherals. Its PCI plug-n-play interface, two (three for CompactPCI) OMNIBUS I/O module sites, 32 bits of digital I/O and high-speed FIFO port make it an excellent choice for the most demanding applications.

Omibus possibilities . . . high-fidelity, high channel density, high speed – right off-the shelf! From 16 simultaneous input/output at 16-bit and 100 KSPS for fast servo-control to 100+dB 24-bit sigma-delta converters for high-fidelity, from 65MHz sampling for burst capture to low-cost, high-resolution muxed inputs for data logging . . . endless possibilities!

For more information, contact sales@innovative-dsp.com.

RSC #11701 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 1 GFLOPS/1600 MIPS, 200 MHz TMS320C6201 DSP (fixed-point) or 160 MHz TMS320C6701 DSP (floating-point)
- Two/three OMNIBUS I/O module sites; multiboard synchronization (ClkLink, SyncLink. PCI, or CompactPCI interface
- Applications include: Audio/Video processing; adaptive control, multi-axis motion control
- Multichannel audio and RADAR/SONAR
- OMNIBUS is an elegant, open-architecture bus
- Custom modules may be designed easily and cost effectively to address unique application requirements

Concurrent Technologies

3840 Packard Road
Ann Arbor, MI 48108
Tel: 734-971-6309 • Fax: 734-971-6350

Ethernet Switch Fabric

www.gocct.com

The FP 110/008 is a 10-port 10/100/1000Base-T Ethernet PICMG 2.16-based switched fabric board (10/100Base-T Ethernet version also available). As an unmanaged fabric switch, it supports up to eight node boards, a fabric-to-fabric link, and a front panel Ethernet interface. The switch core contains a high-speed, non-blocking Layer 2 fabric and includes Quality of Service (QoS) and VLAN security hardware. It supports PICMG 2.9 IPMI via the IPMB0 link, remote monitoring, and hot insertion/removal.

The FP 110/008 is designed for applications that require the management of voice, video, and data packet streams. Applications include networking equipment, VoIP telephony systems, and blade-based servers.

For more information, contact info@gocct.com.

RSC #11702 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 10 ports, Ethernet switched fabric board, up to 10/100/1000Base-T
- Eight node ports, fabric-to-fabric link, and a front panel interface
- Marvell 88E6185 Gigabit Ethernet or Marvell 88E6083 Fast Ethernet switch devices
- Non-blocking, Layer 2 "unmanaged" switch
- Supports IPMI PICMG 2.9 and hot insertion/removal
- Optional extended operating temperature version: –25°C to +70°C

Diversified Technology, Inc.

476 Highland Colony Parkway
Ridgeland, MS 39157
Tel: 800-443-2667 • Fax: 601-898-4185

PlexSys-8 www.dtims.com

Converged communication is now a reality. Diversified Technology's PlexSys-8 Platform is a packet switch backplane (PSB) solution that delivers high performance for the enterprise and service provider applications. When packaged with DTI's CPB4612 Pentium® M processor blades, this 8U system provides the ideal solution for cost effective applications with short lead-time deployments. Contact Diversified Technology today and discover the solutions that were built for communication flow.

FEATURES:

- PICMG® 2.16-compliant, CompactPCI communication server for central office and enterprise deployments
- Intel® Pentium® M processor-based blades with speeds up to 1.8GHz and 2MB L2 cache
- 16 6U slots, 2 switched fabric, 2 system, and 12 64-bit/66MHz node slots
- Advanced system management features for chassis and nodes
- Dual Gigabit Ethernet-based blades for high-speed data transfer
- MontaVista Linux Carrier Grade Edition available

For more information, contact sales@dtims.com.

RSC #11801 @www.compactpci-systems.com/catalogrsc

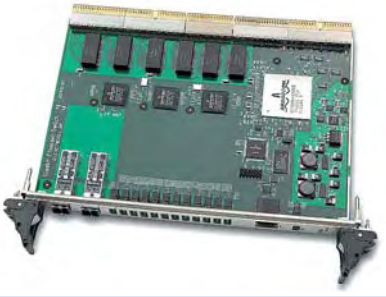
CompactPCI® and AdvancedTCA® Systems Resource Guide PICMG 2.16

DSS Networks, Inc.

23 Spectrum Pointe, Suite 202
Lake Forest, CA 92630
Tel: 949-716-9051 • Fax: 949-716-9052

Model 8261 Switch www.dssnetworks.com

This is an advanced high-performance, full-featured multilayer, 6U GigE switch-fabric board featuring 12 10/100/1000Base-T ports over copper with two 1000Base-SX/LX fiber uplinks. This switch is PICMG 2.16-compliant and compatible with both standard CompactPCI and PICMG 2.16 backplanes. All 12 ports can be routed to slots on the CompactPCI backplane or externally via rear I/O. The model 8261 uses the latest advanced high-performance, full-featured, and highly integrated 12-port Broadcom BCM5690 multilayer switch and BCM5464SR quad-port transceivers, and is fully 802.3-compliant. This switch is available with an OEM developer's kit containing on-board firmware with many features.



FEATURES:

- Fourth-generation BCM5690 switch fabric and BCM5464SRKB quad-port transceivers from Broadcom
- High-performance wire speed on all ports – 24 Gb total; up to 32,000,000 frames per second maximum switching rate
- Onboard firmware for configuration, management, and health monitoring
- Cell and packet-based "head-of-line" blocking prevention; 1 MB of onboard memory for packet buffering
- Extended Ethernet frame sizes to 9 KB; fully compliant to IEEE 802.3 specifications, including auto negotiation
- Onboard Motorola DSP56F826, 80-MHz RISC/DSP processor for local management; serial port for console CL1 and debug

For more information, contact sales@dssnetworks.com.

RSC #11802 @www.compactpci-systems.com/catalogrsc

Advantech Corporation Network Computing
1949 Palomar Oaks Way, Suite B
Carlsbad, CA 92009
Tel: 800-557-6813 • Fax: 760-929-9221

ADVANTECH
Network Computing

Ready-to-Go cPCI Platform for Telecom

www.advantech.com/NetworkComputing

As your trusted ePlatform service provider, Advantech's application-ready CompactPCI hardware platform is a tested, pre-integrated CompactPCI platform for your niche market turnkey solution. This pre-configured system integrates hardware elements to provide a platform on which telecom equipment manufacturers can quickly build telecom applications. Using this standard solution is a much faster, easier way to bring applications to market than the traditional process of selecting hardware elements and integrating the final system with much effort spent on system qualification, compatibility, and test cycle.

The MIC-3369A is a highly integrated and cost-effective CompactPCI single board computer built on the Intel Pentium M processor. It is an ideal application blade for integration with products that have high performance and low power consumption as key requirements. The MIC-3369A can be used in either a system slot or peripheral slot, making it an ideal choice for applications requiring PICMG 2.16 support for Gigabit speed switched-fabric interconnection between blades. The board is designed in compliance with the PICMG 2.9 specification to work with remote system and platform management modules. With all these features and inherent hot swap functionality, the MIC-3369A is perfectly matched for mission critical telecom and data communication applications where high availability is essential, such as the 3G wireless infrastructure, VoIP, media gateways, soft switches, and triple-play server clusters.

The MIC-3042 comes with a built-in high-quality backplane that provides 64-bit/66 MHz PCI bus speed. The standard configuration includes a PICMG 2.5 compatible H.110 bus, which is open standard architecture for telecom solutions. Moreover, the MIC-3042 supports PICMG 2.16 and can be used as a blade server and a media blade carrier.

FEATURES:

MIC-3369A – CompactPCI 6U CPU board with Intel® Pentium® M Processor and Intel® E7501-based hardware platform

- Supports Intel Pentium M 745 processor @ 1.8 GHz/2 MB L2 cache and Pentium M processor @ 1.6 GHz/1 MB L2 cache
- Dual Gigabit Ethernet on board
- Up to 2 GB (DDR-200) memory on board with ECC/One 64-bit/66 MHz PMC expansion slot
- PICMG 2.16 compliant with Packet Switching Backplane Specification
- PICMG 2.9 compliant with System Management Specification

MIC-3042 – 4U-high CompactPCI® platform with standard CompactPCI power supply (CT bus or PICMG® 2.16)

- 8-slot 6U CompactPCI backplane
- Standard 500 W 2+1 hot-swappable/redundant AC or DC CompactPCI power supplies
- Supports packet switch backplane specification (PICMG 2.16)
- Supports computer telephony specification (PICMG 2.5)

For more information, contact ctinfo@advantech.com.

RSC #119 @www.compactpci-systems.com/catalogrsc

Carlo Gavazzi Computing Solutions
10 Mupac Drive
Brockton, MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

StarFabric Development Kit

www.gavazzi-computing.com

The StarFabric Development Kit integrates the CP-SFX8 fabric card with a PICMG 2.17 backplane and an eight-slot, portable aluminum enclosure.

The PICMG 2.17-compliant CP-SFX8 6U fabric card lets you implement a centralized fabric topology in a CompactPCI chassis.

Highly serviceable and maintainable, the 9U-high enclosure features a flush card cage accommodating eight 6U x 160mm CompactPCI boards housed in a vertical orientation. The backplanes support IPMB as specified in PICMG 2.9 Rev. 1.0, 5.0, or 3.3-volt keying and hot swap. Optional 1101.11-compliant 80mm transition I/O cards are supported.

For more information, contact gavazzi@mupac.com.

RSC #12001 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 15.75" (H) (9U) x 9.2/11.6" (W) x 11.7" (D) chassis (400mm x 234/296mm x 297mm)
- Eight-slot, 7U CompactPCI backplane with front and rear I/O
- Features up to eight links to the backplane and two front panel links with chassis
- Supports up to four node cards within the chassis
- Provides one 5.25" x 1.63" device on a double-wide carrier card
- Provides two 3.5" x 1.0" devices (one accessible) on a single-wide carrier card

CompactPCI® and AdvancedTCA® Systems Resource Guide PICMG 2.17

Parsec (Pty) Ltd.
16 Pieter Street
Centurion, 0157 ZA
Tel: +27-12-678-9740 • Fax: +27-12-678-9741

PM410: cPCI Carrier Board

www.parsec.co.za

The PM410 is a StarFabric (SF)-based CompactPCI PMC carrier board that conforms to the PICMG 2.17 multi-segment node specification. It provides two PMC sites, a CompactPCI interface on J1/J2, four SF links on J3, one front-panel SF link and 110 PMC I/Os on J5. StarFabric is a powerful switched interconnect that enables expansion of PCI-based systems.

The PM410 uses StarFabric technology to provide high-bandwidth links between PMC sites. It is well suited for applications requiring high data throughput on a scalable platform. Multiple PM410s can be cascaded in a flow-through manner to yield an architecture typically found in radar signal processors, data recorders, and other bandwidth-intensive applications.

For more information, contact info@parsec.co.za.

RSC #12002 @www.compactpci-systems.com/catalogrsc

FEATURES:

- 32/64-bit 33/66MHz PCI interface on J1/J2 and two 32/64-bit 33/66MHz 3.3V PMC sites
- Four, full-duplex 2.5Gbps StarFabric (SF) links on a J3 and one front-panel SF link
- 55 I/Os per PMC routed to J5 according to PICMG 2.3, upgradable to 64 I/Os per PMC
- Full PCI bandwidth between PMC sites across multiple PM410 carriers
- Optional PM420 rear transition module provides PCI expansion via Cat 5e cable
- Ideal for use with Parsec's PM430, PM431, PM480, and PM488 PMC modules

C&D Technologies, Inc.

3400 E. Britannia Drive
Tucson, AZ 85706
Tel: 800-547-2537 • Fax: 520-741-4598

CPCI200A-1

www.cd4power.com

Operating over a wide range input of 90-264VAC, the cPCI200A-1, the smallest of its kind at only 3U x 4HP. It was designed for globally deployed High Availability (HA) enterprise applications requiring EMI compliance to FCC and EN55022 Class A conducted limits, as well as compliance with the harmonic current requirements of EN61000-3-2.

The 200W AC/DC Power Supply is designed for compliance with PICMG® 2.11 R1.0 CompactPCI Power Interface Specification with features including active PFC, active droop current sharing, and internal OR-ing FETs to support applications requiring hot-swap performance and N+1 redundant configuration.

For more information, contact sales@cdtechno.com.

RSC #12101 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Active power correction – complies with EN61000-3-2
- 90-264VAC input range
- 3U x 4HP package
- PICMG® 2.11 compliant
- Low airflow – requires as little as 200lfm of airflow (half that required by competing products)
- Fault tolerant N+1 configuration – output fault isolation

Power supplies
CompactPCI® and AdvancedTCA® Systems Resource Guide

C&D Technologies, Inc.

3400 E. Britannia Drive
Tucson, AZ 85706
Tel: 800-547-2537 • Fax: 520-741-4598

cPCI325D-1 with IPMI

www.cd4power.com

C&D Technologies' cPCI325D-1 hot-swap DC/DC power supply is designed for compliance with PICMG® 2.11 R1.0 CompactPCI Power Interface Specification in a 3U x 8HP package. Standard features include IPMI functionality, active droop current sharing, and internal OR-ing FETs to support High Availability (HA) applications requiring hot-swap performance and N+1 redundant configuration. The design incorporates the 47-pin (PICMG® 2.11) connector option.

Operating over a wide range input of 36-72VDC, the cPCI325D-1 was designed for globally deployed HA telecom systems that require EMI compliance to Telcordia NEBS and ETSI EN 300 386 limits.

For more information, contact sales@cdtechno.com.

RSC #12102 @www.compactpci-systems.com/catalogrsc

FEATURES:

- IPMI for active management – reports critical events, monitors routine status, and exercises control functions
- 36-72VDC input range
- 3U x 8HP package
- PICMG® 2.11 compliant – 47-pin connector option
- Low airflow – requires as little as 200lfm of airflow (half that required by competing products)
- Active droop current sharing – large numbers of units can be accurately operated in parallel

SAE Power Inc.
1500 E. Hamilton Avenue
Campbell, CA 95008
Tel: 408-369-2200 • Fax: 408-369-4911

1U Power Systems

www.saepower.com

SAE Power Inc., a major designer and manufacturer of Switch Mode power supplies, introduces a new family of compact, high-efficiency, 1U Front-End Power Products for distributed power and battery backed systems. 1U modules in a range of 800W, 1200W, and 2100W will allow customers to scale their requirements up to a total power availability of 16.8kW in one rack. Units will be available with I2C Serial Data Bus, AUX output, and control/monitoring signals. Our systems meet IPMI Signal/Control requirements, and are compliant with the SSI PSM interface standard. This system will allow the flexibility and scalability customers require to meet their market demands. Modules may also be used in customer equipment.

For more information, contact jchurchill@saepower.com.

RSC #12201 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Up to 6.3kW of o/p power in a 1U high rack; up to 16.8kW in a 3U high rack (3U rack available soon)
- 800W, 1200W, and 2100W modules available; outputs available: 12, 24 or 48VDC (lower voltages only on lower power modules)
- Universal AC input range 90 to 264VAC for 800 and 1200W versions
- Hot-swap operation; proprietary single wire interface for communication and digital current share
- Rear AC in, DC out and control access on rack is standard (front access optional for some versions)
- Active PFC (configurable as separate phases or 3-phase Δ or Y to suit North American and European applications

CompactPCI® and AdvancedTCA® Systems Resource Guide

Power supplies

SAE Power Inc.
1500 E. Hamilton Avenue
Campbell, CA 95008
Tel: 408-369-2200 • Fax: 408-369-4911

6U/8HP 600W cPCI

www.saepower.com

The PF600W cPCI AC/DC Power Supply module designed by SAE Power Inc., offers the highest power density available for CompactPCI Systems. The 6U module delivers nearly twice the power of traditional CompactPCI power modules, while occupying only two slots. The PF600 employs the P47 connector for PICMG 2.11 compatibility. High reliability and high efficiency combined with the PF600 power density makes this unit an excellent selection for a multitude of telecommunication, data storage, and computer applications.

*The DC input PD600 version will be available starting Q3 2005.

For more information, contact jchurchill@saepower.com.

RSC #12202 @www.compactpci-systems.com/catalogrsc

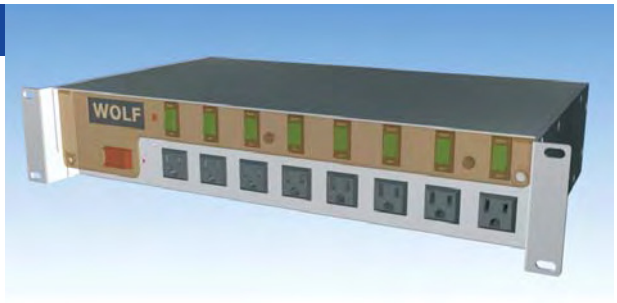
FEATURES:

- Hot swap and N+1 redundancy on all channels
- High power density
- Physical dimensions: 10.32 (H) x 1.59 (W) x 6.40 (D)
- Power factor correction meets EN61000-3-2
- Universal AC input range: 90VAC to 264VAC
- Single wire current sharing for V1, V2, and V3; 600W continuous output at 50°C
- High-efficiency synchronous rectifier technology; low loss internal OR-ing "diodes" (FETs)

Wolf Industrial Systems Inc.
5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

SCAMP Power Panel

www.wolf.ca



The Supervisory Control and Monitored Power Panel (SCAMP) is feature-rich and ruggedly constructed. This 2U 19" rackmount power distribution unit provides eight protected and monitored 15-amp 125VAC, each outlet tracked individually for power consumption and managed by a microprocessor-based power monitoring/sequencing controller. A graphic digital display presents the line voltage and total or individual current/power usage.

Have it your way!
Wolf will custom-design any product to make it suit your application perfectly.

Visit www.wolf.ca/scamp

For more information, contact engineering@wolf.ca.

FEATURES:

- Eight individually protected and monitored 15-amp 125VAC outlets; external alarm port; total current at 30 amps
- Eight individual illuminated circuit breakers
- Blue backlit LCD display of voltage, current, and power levels for total and individual circuits
- Ethernet port for Internet or remote monitoring and control; serial diagnostic and configuration port
- Time-stamped log of AC power quality
- 15 ft. 30-amp FT4 rated cable with twist and lock plug; UL and CSA approved

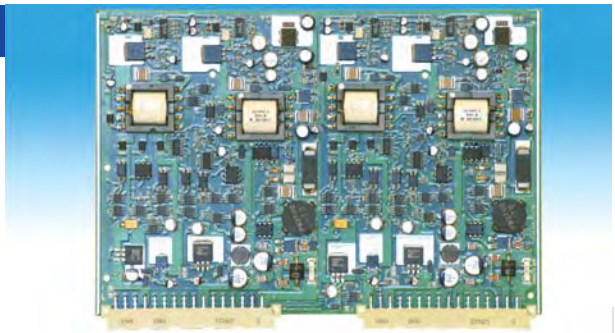
RSC #12301 @www.compactpci-systems.com/catalogrsc

Power supplies
CompactPCI® and AdvancedTCA® Systems Resource Guide

Wolf Industrial Systems Inc.
5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

VME Fail-Safe P/S

www.wolf.ca



VME Fail-Safe Power Supply features a rugged 6U x 4HP rack-mountable card that provides two independent, fully isolated power supplies operating over a wide voltage range of 45VDC to 125VDC. It provides two sets of four output voltage rails (+48V, +5V, +12V, and 12V). VME Fail-Safe P/S is designed for demanding environments, operating at a temperature range from –25°C to +85°C. Vibration and shock standards exceed those required by the railway industry. This is one of the most robust fail-safe power supplies on the market.

Need a specialized solution?
Wolf power supplies can be custom-designed to suit your specs perfectly, with all the ruggedness of the VME Fail-Safe.

Visit www.wolf.ca/powersupply

For more information, contact engineering@wolf.ca.

FEATURES:

- Design ruggedized for temperature/shock/vibration
- Fail-safe, redundant power distribution
- Supervisory circuits shut down a channel when overvoltage, undervoltage, or current overload occurs
- Protects against voltage polarity reversal
- Indicates status of each channel via a front panel LED and an internal status circuit
- Can be customized to your specific requirements

RSC #12302 @www.compactpci-systems.com/catalogrsc

Next Power Corp.

490 South Airport Blvd.
San Francisco, CA 94080
Tel: 408-244-6450 • Fax: 408-244-4374

Innovations in Power Technology

CPCI D500 6U 4HP

www.next-power.net

The CPCI-D500 power unit offers ultra-high power density in a 6U 4HP plug-in module that meets the PICMG 2.11 R 1.0 power interface specification.

Active current sharing enables multiple units to be paralleled for higher current applications. Efficient OR-ing permits N+1 redundancy and provides hot-swap capability.

The 48VDC 500 Watt CPCI-D500 power unit is based on new principles in power conversion. This patented technology achieves over 90 percent efficiency at full load and maintains that efficiency across the entire operating temperature range. Airflow requirements are minimal.

For more information, contact jimw@next-power.net.

RSC #12401 @www.compactpci-systems.com/catalogrsc

FEATURES:

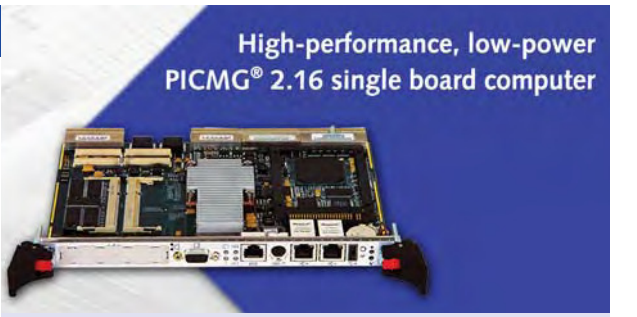
- Full 500W in 6U x 4HP continuous output at 50°C
- Ultra high efficiency, over 90 percent at full load
- Active current sharing from zero to full load for N+1 redundancy. and unlimited parallel operation
- Full load on all outputs across 0°C to 50°C temperature range with minimal airflow
- IPMI capability
- No minimum load required

Performance Technologies

205 Indigo Creek Drive
Rochester, NY 14626
Tel: 585-256-0200 • Fax: 585-256-0791

CPC5505 Single Board Computer

www.pt.com



The CPC5505 PICMG® 2.16-compliant single board computer takes advantage of the latest advances in the embedded processor and support chipset roadmap establishing the benchmark of Intel® Pentium® M-based SBCs.

The CPC5505 is a single slot system master CPU board operating at 1.8 GHz, fully compliant with the PICMG 2.9 Intelligent Platform Management Interface standard. It also provides a 32-bit/33MHz CompactPCI bus.

The CPC5505 has a mezzanine connector that provides future extensibility by integrating dual GigE routings and 64-bit PCI to the PMC site. PMC modules supporting applications such as security, storage, and firewall can be loaded into the site, enhancing system functionality.

For more information, contact info@pt.com.

RSC #12402 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Single slot, 6U single board computer
- 1.8 GHz Intel® Pentium® M processor
- Intel 6300ESB I/O controller hub
- 400MHz front-side bus
- 2MB L2 cache
- One PT7MC site supporting 64-bit PCI and dual 10/100/1000 Ethernet

Embedded Communications Computing
2900 S. Diablo Way
Tempe, AZ 85282
Tel: 800-759-1107 • Fax: 602-438-3195

MOTOROLA

CompactPCI Processor Blades

www.motorola.com/computing

Motorola offers an array of open standards-based products including state-of-the-art CompactPCI® blades featuring Intel® and PowerPC® processors. Designed for telecommunications, data communications, real-time imaging, industrial control, and other OEM applications, all Motorola single-board computers and network processing blades are designed for maximum reliability, scalability, and serviceability. Motorola provides support for Linux, VxWorks, and other real-time operating systems to maximize productivity and reduce time to market for system architects and developers.

Intel Architecture Processing Blades

The Motorola CPCI-74x family of single-board computers provides a range of performance and features for demanding control plane and packet switching applications. Breakthrough performance is delivered using the latest Intel® Pentium® M processors matched with significant memory and I/O capabilities. Standard board features include dual Gigabit Ethernet interfaces, 64-bit universal system- or peripheral-slot functionality, and a variety of rear transition modules for platforms based on CompactPCI and CompactPCI Packet Switching Backplane platforms.

PowerPC Processor Blades

The Motorola PowerCore CPCI-69x family of high performance PowerPC processing blades are designed for applications that require high bandwidth, fast memory access, and excellent networking capabilities. Board features include three Gigabit Ethernet (or Fast Ethernet) interfaces, dual high performance 64-bit PMC slots, watchdog timers, and universal system- or peripheral-slot functionality.

Network Processor Blades

The Motorola CPCI-920/922 network processor blade brings new levels of packet processing flexibility and power to embedded telecommunications and data communications applications. The high performance Intel® IXP2400 NPU technology designed into the CPCI-920 provides performance and cost-scalable configurations in single or dual platform configurations. Application-specific mezzanine sites enable system architects to use the blade in a broad range of solutions from high-density telecom CO to datacom oriented IP applications.

For more information, contact inquiry@mcg.mot.com.

FEATURES:

- Intel architecture & PowerPC processor blades optimized for performance, power, and features
- Universal mode system- or peripheral-slot functionality
- IPMI system management support (PICMG 2.9)
- CompactPCI Packet Switching Backplane compliant (PICMG 2.16)
- Application flexibility with Linux, VxWorks, and other real-time operating systems
- Control plane and data plane solutions for next-generation platforms and network devices

RSC #125 @www.compactpci-systems.com/catalogrsc

MEN Micro, Inc.
PO Box 4160
Lago Vista, TX 78645
Tel: 512-267-8883 • Fax: 512-267-8803

F9 Pentium M CompactPCI System Controller

www.menmicro.com

For embedded applications, the F9 Pentium M SBC CompactPCI System Controller offers both high performance and an operational range suitable for harsh industrial conditions. The F9 is a one-slot 32-bit CompactPCI controller based on the Pentium M (Low Voltage) with speeds up to 1.8 GHz or the Celeron M (Ultra Low Voltage) with speeds up to 600 MHz.

The standard F9 operates over the temperature range of 0°C – 60°C, but a version suitable for the extended industrial temperature range can be supplied upon request. The F9 packs a significant number of onboard peripherals in one CompactPCI slot. Gigabit Ethernet and dual USB ports are available on the front panel. Standard memory resources include one GB of DRAM. Optional storage is available as a CompactFlash slot for ATA Flash memory or a 1.8-in. IBM Microdrive hard disk. A flexible DVI-I graphics interface accommodates digital or analog flat-panel displays or CRT monitors to connect directly to the F9.

Additional I/O can be supplied by an I/O extension card plugged directly onto the F9. Peripherals such as a PS/2 keyboard or mouse, another USB port, a serial interface, an AC'97 audio CODEC, or a 2.5-in. hard disk can be accommodated. In applications where front-panel I/O cannot be supported, a rear I/O transition module is available. This connects to the typical PC peripherals like VGA graphics, Gigabit Ethernet, PS/2 peripherals, or a USB port – all of which are available at the J2/P2 connectors.

In addition to the F9, MEN has a complete line of CompactPCI products, including Embedded System Modules (ESM), which can be mounted on 3U or 6U carriers and function as CompactPCI system controllers. A wide variety of 3U and 6U CompactPCI SBCs supporting Intel and PowerPC processors are also available as well as CompactPCI mezzanine I/O cards, carrier cards, and system enclosures.

For more information, contact egodsey@menmicro.com.

RSC #126 @www.compactpci-systems.com/catalogrsc

FEATURES:

- F9 – Single-slot CompactPCI System Controller (SBC) with a Pentium M (LV) or a Celeron M (ULV) processor
- Processor speeds from 600 MHz up to 1.8 GHz
- Industrial temperature range of 0°C-60°C; extended range available as a special order
- Specially designed heat sink eliminates the need for fans in many industrial applications
- Onboard storage: 1 GB of DRAM; options for CompactFlash or an 1.8-in. hard disk
- Peripheral interfaces: GB Ethernet, dual USB, DVI-I for digital or analog flat-panel displays or monitors
- Additional I/O available with I/O extension card that plugs onto the F9
- Other CompactPCI products include Embedded Systems Modules (ESM), 3U/6U SBCs, mezzanine cards, carriers, and enclosures
- An ESM is a system-on-a-module with a processor such as an Intel x86, Pentium, or PowerPC
- ESMs have a small 72 x 149 mm footprint compatible with 3U/6U carriers and other mezzanine cards
- 3U and 6U CompactPCI SBCs support Intel and PowerPC processors and provide significant onboard resources
- M-Module, PMC, PC-MIP mezzanine modules for a variety of computer, industrial, and real-time I/O options

GE Fanuc Embedded Systems, Inc.
12090 South Memorial Parkway
Huntsville, AL 35803
Tel: 256-880-0444 • Fax: 256-882-0859

VMIVME-7807

www.gefanuc.com/embedded

The VMIVME-7807 is a highly flexible, high-performance SBC that integrates Intel's Pentium M processor with up to 1.5 GB DDR SDRAM, dual GigE (VITA 31.1 option) interfaces, and a PCI-X, 66-MHz PMC expansion slot for additional I/O options. Operating at up to 1.8 GHz, the SBC provides high bandwidth and processing power and is ideal for I/O intensive applications.

Utilizing the highly integrated Intel 6300ESB I/O controller hub, the VMIVME-7807 offers four serial ports, four USB 2.0 ports, serial ATA, IDE, and up to 1 GB of optional CompactFlash. SVGA and DVI support is also provided.

FEATURES:

- Intel Pentium M offering speeds up to 1.8 GHz and 1.5 GB DDR SDRAM
- One 3.3V PMC expansion site supports PCI-X at 66-MHz bus speed
- Dual GigE with optional VITA 31.1 support via P0
- One 10/100Base-TX port, four serial ports, and four USB 2.0 ports
- SVGA/DVI, serial ATA, IDE, and up to 1 GB CompactFlash
- Operating system support for Windows 2000, Windows XP, QNX, Linux, and VxWorks

For more information, contact info.embeddedsystems@gefanuc.com.

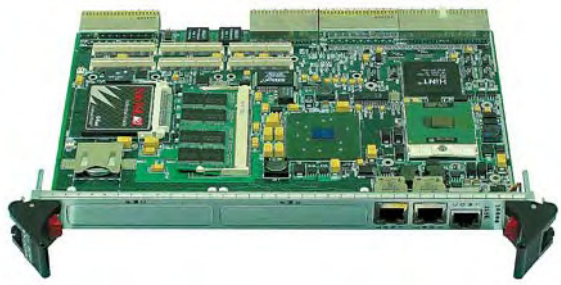
RSC #12701 @www.compactpci-systems.com/catalogrsc

Processor boards
CompactPCI® and AdvancedTCA® Systems Resource Guide

GE Fanuc Embedded Systems, Inc.
12090 South Memorial Parkway
Huntsville, AL 35803
Tel: 256-880-0444 • Fax: 256-882-0859

VMICPCI-7806

www.gefanuc.com/embedded



The VMICPCI-7806 is a low-power SBC for robust, reliable, high-performance applications. Available with either Intel's Pentium M or Celeron M processor technology, the SBC features a 400-MHz system bus and incorporates Intel's 855GME graphics memory controller. The dual GigE ports are user configurable for support via the front panel (RJ-45) or the backplane (J3) to comply with PICMG 2.16. Utilizing the new, highly integrated Intel 6300ESB I/O controller hub, the VMICPCI-7806 offers two PMC sites, two serial ports, two USB 2.0 ports, parallel and serial ATA, and a CompactFlash option.

FEATURES:

- Intel's Pentium M processor up to 1.8 GHz or Intel's Celeron M processor at 1.3 GHz
- 6U single-slot universal controller with up to 1 GB of DDR SDRAM
- Dual 3.3V PMC sites (one for 64-bit/66-MHz PCI, and one for 32-bit/33-MHz PCI)
- Two GigE ports, two serial ports, two USB 2.0 ports, parallel and serial ATA, up to 1 GB of CompactFlash
- PICMG 2.16 (CompactPCI Packet Switching Backplane) and PICMG 2.9 (IPMI) compliant
- Supports Windows 2000, Windows XP, QNX, Linux, and VxWorks operating systems

For more information, contact info.embeddedsystems@gefanuc.com.

RSC #12702 @www.compactpci-systems.com/catalogrsc

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

CL9-cPCI 3U SBC

www.sbs.com

Using the Intel® Pentium® M processor that incorporates Intel SpeedStep technology, the CL9 SBC eliminates the need for an onboard fan. The CL9's small 3U CompactPCI form factor is well suited for low-power embedded computer applications where optimal performance and functionality is required.

The CL9 is available with an operating temperature range of 0°C to 70°C for standard applications. For harsh commercial and industrial operating conditions, an extended temperature CL9 version is available, depending on processor speed.

The CL9 is available with two different front options, one or two slots wide, which provides flexibility for systems designers.

For more information, contact info@sbs.com.

RSC #12801 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Intel® Pentium® M processor, 600 MHz to 1.8 GHz
- 3U CompactPCI in single- or dual-slot versions
- Two Gigabit Ethernet ports
- Dual Serial ATA interfaces

CompactPCI® and AdvancedTCA® Systems Resource Guide

Processor boards

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

CT9-cPCI 6U SBC

www.sbs.com

The CT9 offers a high level of functional integration within a single slot, giving users the freedom to use the PMC interfaces to customize the SBC for their applications. This platform supports IPMI PICMG 2.9 system management in addition to full hot-swap support. The CT9 is designed for a broad range of applications such as wireless, voice-over-packet, enterprise devices, and server blade applications.

The CT9 also includes a Baseboard Management Controller (BMC) supporting the Intelligent Platform Management Interface (IPMI) architecture. It allows independent platform management between IPMI enabled boards, power supplies, fans, and other accessories in a system.

For more information, contact info@sbs.com.

RSC #12802 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Intel® Pentium® M processor, 600 MHz to 1.6 GHz
- Optimized for telecom applications
- Hot-swap (full) PICMG 2.1 compliant
- Flash drive up to 1 GB or local 2.5" hard disk
- VGA/LCD up to 2048x1536, 16/32MB DDR SDRAM
- Two Gigabit Ethernet ports, 10/100/1000Base-T, front or rear optional

SMA Computers
9550 Warner Avenue, #250
Fountain Valley, CA 92708
Tel: 714-593-2338 • Fax: 714-593-2368

CompactMAX CPU7.2 - Pentium M Power

www.SMAcomputers.com

The CPU7.2 has been designed for use with the latest processors of the Intel Embedded line. For the Pentium M 745 1.8 GHz, Intel has doubled the L2 cache to 2 MB and reduced the power dissipation. Now, a Pentium M with just 1.8 GHz achieves the same performance as past processors with 2.5 to 2.8 GHz, depending on the application. With the 855GME/ICH4 chipset and the high-capacity CompactPCI bridge PLX 6150, the CPU7.2 combines maximum performance, long-term availability, and low power consumption.

Processing power and power dissipation depend on the processor. Choose from the Ultra Low Voltage Celeron M 600 MHz (7 watts), the Low Voltage Pentium M 738 1.4 GHz (10 watts), up to the Pentium M 745 1.8 GHz (21 watts). One module for all applications – that means shorter time for modifications, optimal cost/benefit ratio, and simplified logistics. Two versions are available.

The CPU7.2C offers all essential functions of an industrial computer on a single eurocard. 4 HP is all that is needed for a powerful processor with CompactFlash, Gigabit Ethernet, efficient graphics, and four USB ports as well as a serial interface that can be connected via rear I/O.

Extensive additional functions are available on the CPU7.2M (8 HP): a second Ethernet interface (also available via rear I/O), non-volatile FeRAM for permanent storage of critical system data, stereo audio functions, two more serial interfaces and USB ports, and an optional 2.5" hard drive. Serial interfaces can be adapted to RS-232/422/485/TTY or CAN via SMA piggybacks according to the demands of the application.

A fanless version of the CPU7.2 is available as well as ruggedized versions appropriate for use in extended temperature ranges and mobile applications where resistance to shock and vibration is a factor.

SMA designs and manufactures a comprehensive range of standard and custom 3U CompactPCI components and systems.

FEATURES:

- Pentium M 745 (1.8 GHz), Pentium M 738 (1.4GHz), Celeron M (600 MHz)
- Gigabit Ethernet available on front and rear
- Ruggedized, fanless versions for industrial-grade and mobile applications
- DVI-I SXGA graphic with 2D/3D hardware acceleration
- Ruggedized stereo audio ports
- Bootable CompactFlash
- Modular ATA/100 mass storage option
- Fast Ethernet (available on front and rear)
- Critical system data mirror
- COM1 to COM3 as RS232/422/485/TTY/CAN
- Six USB 2.0 ports
- 4 HP and 8 HP versions available

For more information, contact info@SMAcomputers.com.

RSC #129 @www.compactpci-systems.com/catalogrsc

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
Tel: 650-786-0614

Netra™ CP2140/2160 cPCI Host and Satellite Processor Blade

www.sun.com/netra

Netra CP2140 CompactPCI Blade

Serving as the system controller in a CompactPCI (cPCI) configuration, the Netra CP2140 system controller blade provides exceptional levels of performance and reliability for network equipment providers, telecommunications companies, and others in embedded industrial environments.

Built around the UltraSPARC IIi processor, with 512 KB of cache, and up to 4 GB of memory, the Netra CP2140 blade offers a rugged, high-performance blade with high memory density. With support for PCI Industrial Computer Manufacturers Group (PICMG) standards such as High Availability (HA) hot-swap functionality, the Netra CP2140 system controller blade allows for superior levels of reliability and availability.

The combination of the Netra CP2140 blade as a host and the Netra CP2160 board as a satellite blade within the Netra CT410 and CT810 servers provides a reliable, industry standard, off-the-shelf platform for telecommunications applications.

Netra CP2160 CompactPCI Blade

The Netra CP2160 CompactPCI (cPCI) blade is ideal for demanding telecommunications and embedded applications. The Netra CP2160 blade can function either as a system controller, a satellite in a CompactPCI configuration, or a standalone, single-board computer in an embedded environment. It delivers processing power while off-loading I/O-intensive functions from the main host processor.

Powered by the UltraSPARC IIi processor, the Netra CP2160 blade features a wide range of I/O interfaces, two PMC slots, and memory expansion of up to 3 GB – providing the flexibility to tailor applications to specific solution needs. Different levels of availability are available through support for basic, full, and high availability under the hot-swap PICMG specifications.

For more information, contact netrainfo@sun.com.

RSC #130 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Part of a comprehensive line of NEBS certified systems, storage, and management and availability software from Sun
- Carrier-grade Solaris operating system
- Industry leading management and availability software
- Compliance with PCI Industrial Computer Manufacturers Group (PICMG) standards
- Two 10/100 Mbps Ethernet interfaces
- Intelligent Platform Management Interface (IPMI) for out-of-band communication

Netra CP 2140 Host Processor Blade

- 650 MHz UltraSPARC IIi processor with 512 KB on-chip L2 cache
- Large memory capacity (up to 4 GB of memory)
- One PCI Mezzanine Card (PMC) slot
- Two Ultra Wide SCSI interfaces

Netra CP 2160 Satellite Processor Blade

- 650 MHz UltraSPARC IIi processor with 512 KB on-chip L2 cache
- Large memory capacity (up to 3 GB of memory)
- Two PCI Mezzanine Card (PMC) slots

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
Tel: 650-786-0614

Netra™ CP2300 cPSB Processor Blade

www.sun.com/netra

The Netra CP2300 cPSB processor blade builds on the success of the CP2000 family of CompactPCI (cPCI) blades. Based on PICMG 2.16 Packet Switching Backplane (cPSB) specification, the CP2300 blade is designed to provide improved reliability, availability, and system management – completing the transformation from embedded SBC to telecom blade server.

The Netra CP2300 blade offers some of the best of the enterprise computing world, including the Solaris™ Operating Environment, Netra High Availability (HA) Suite, and the vast array of applications associated with Sun's award-winning operating system. In addition, its CompactPCI form factor and NEBS Level 3 compliance prepare it for the tough environmental and serviceability needs of Network Equipment Providers, as well as defense, aerospace, and other specialized original equipment manufacturers.

Telecom customers are transitioning their blade applications to highly configurable building blocks for use in switched fabric networks. A key component of this transition is converting I/O traffic from system buses and protocols to packet-switched networks. The Netra CP2300 telecom blade is the first CompactPCI board from Sun that supports redundant packet I/O over a CompactPCI Packet Switched Backplane (cPSB) according to the PICMG 2.16 specification. Now customers can configure a scalable local area network within a 2.16 chassis using Sun's industry-proven SPARC and Solaris platform. And they can manage it in an integrated way using processor- and FRU-level manageability. This combination, along with NEBS Level-3 certification, meets the demanding requirements of telecommunications and network equipment providers.

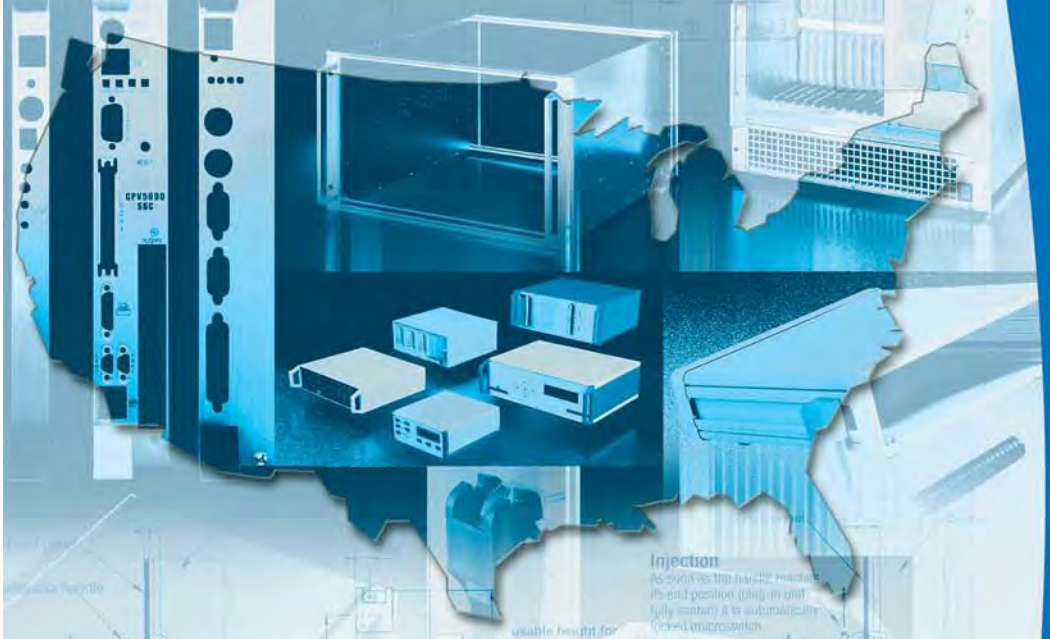
FEATURES:

- Part of a comprehensive line of NEBS certified systems, storage, and management and availability software from Sun
- Carrier-grade Solaris operating system
- Industry leading management and availability software
- Compliance with PCI Industrial Computer Manufacturers Group (PICMG) standards
- 650 MHz UltraSPARC IIi processor with 512 KB on-chip L2 cache
- Large memory capacity (up to 2.5 GB of memory)
- Two 10/100 Mbps Ethernet interfaces
- One PMC slot
- Two UltraWide SCSI, two Serial, two USB interfaces
- Intelligent Platform Management Interface (IPMI) for out-of-band communication

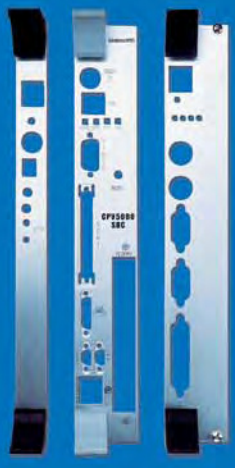
For more information, contact netrainfo@sun.com.

RSC #131 @www.compactpci-systems.com/catalogrsc

Right Here, Right Now...



Enclosures



Panels

Handles

Elma carries the largest inventory of enclosures in the U.S.

At Elma, we know what you're thinking: Is it in stock? Our on-hand inventory is unmatched in the U.S. That means your order can be filled and delivered fast. We manufacture quality enclosures, enclosure accessories, front panels, and more. Over 35,000 part numbers in all. And every precision Elma product comes with unparalled customer service and technical support. So call us today. Elma has the answer you want to hear.

ELMA
Your Solution Partner

USA Elma Electronic Inc.
Phone: 510.656.0606 Fax: 510.656.8008 E-Mail: sales@elma.com Web: www.elma.com

Wolf Industrial Systems Inc.
5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

Rear-Transition Modules

www.wolf.ca

Why not avoid the hassle of PCB and faceplate design by ordering a precisely engineered Rear-Transition Module from Wolf?

CompactPCI and VME Rear-Transition Modules are available from Wolf, designed, built, and delivered to your exact specifications. Wolf Rear-Transition Modules are built with faceplates that are anodized and clear alodine finished, with silk-screened connector labels, industrial grade type-IV card ejector/latching handles, and uniquely keyed I/O connectors to prevent cable installation errors. Built to military vibration and shock standards, these modules provide rugged construction for demanding applications. Wolf's engineering "attack" team can take your requirements and produce a complete design, including a color 3D rendering and quote within 72 hours. Prototypes can be in your hands in as little as four weeks.

Visit www.wolf.ca/rtm

FEATURES:

- Free engineering design proposal
- Free 3D, full-color renderings
- All within 72 hours
- Prototype in as little as four weeks
- Shock: Designed to meet Mil-STD-901D
- Vibration: Designed to meet Mil-STD-167-1
- PCB materials: FR-404, UL94V-0
- Manufactured: IPC-2221 and IPC2222
- Workmanship: IPC-A-610, Class 3
- Toll-free: 1-800-931-4114

For more information, contact engineering@wolf.ca.

RSC #133 @www.compactpci-systems.com/catalogrsc

Radian Heatsinks, a division of Intricast Company, Inc.

2160 Walsh Avenue
Santa Clara, CA 95050
Tel: 800-689-2802 • Fax: 408-988-0683

radian

Heatsink Prototyping

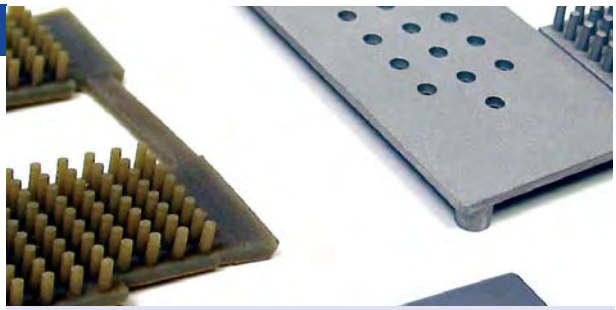
www.radianheatsinks.com

Radian provides design engineers with solid model patterns and rapid metal prototypes as tools for visualization and quantitative validation of new heatsink designs early in the overall product development process. Radian's adopted RP approach has condensed the design and development lead-time for custom heatsinks from five or six weeks to just a matter of days, and one to three weeks for custom designs.

The company offers complimentary CFD analysis and tailored design/mechanical engineering assistance to ensure all cost and performance requirements are met, if not exceeded. To provide maximum design flexibility and cost-effective production, Radian offers versatile manufacturing and finishing capabilities.

For more information, contact radiansales@radianheatsinks.com.

RSC #13401 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Create solid model patterns directly from 3D CAD drawings in two to five business days
- Concurrently test thermal designs for form, fit, and performance throughout development cycle
- Incorporate complex features such as embedded fansinks, low profiles, and virtually any combination of pin shapes
- Resolve thermal design issues before investing in hard-tooling or final system designs
- Early design validation minimizes costly scheduling delays and development mistakes
- Contact Radian for complementary CFD analysis, engineering assistance, rapid prototyping, and volume solutions

Packaging Performance ...into System Solutions

Dawn's **Model 3800** enclosure is now available in PORTABLE, DESKTOP AND RACKMOUNT configurations. It features an IEEE 1101.10 card cage, 5 usable slots, 80mm rear transition module support, provisions for an internal HDD, aggressive push-pull cooling, and Dawn's exclusive ***RuSH***™ system monitoring technology.

Supported backplane architectures include:

VME & VME64x
VITA 31.1 & 41.x
CompactPCI™ **2.16 & 2.1**
Custom

Model 3800 shown with standard portable carrying handle.

Download a data sheet:
http://www.dawnvme.com/3800.html

RuSH™ µP Technology

Order your **Model 3800** with Dawn's µP-based, bus independent System Health Monitor — **Model 426**. It monitors and controls TEMPERATURE, FAN SPEED, OUTPUT VOLTAGES, POWER-ON HOURS AND ANALOG/DIGITAL I/O. Talk to it locally via an onboard RS-232 port or globally via the Internet. In a fault condition it will even shut down the power supply and send e-mail to three different recipients. Download a data sheet today!

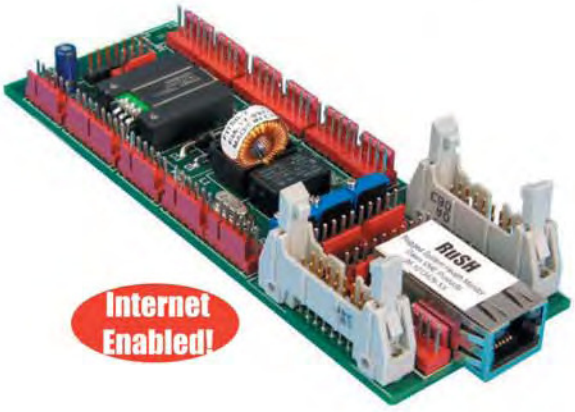
http://www.dawnvme.com/rush.html.

Output Voltages

Fan Speed (RPM)

Temperature

Power-On Hours



From *Dawn*, of course!

Dawn VME Products®

RSC# 135 @www.compactpci-systems.com/rsc

Aitech Defense Systems Inc.
9301 Oakdale Avenue
Chatsworth, CA 91311
Tel: 866-388-0712 • Fax: 818-718-9787

S950 Space Processor

www.rugged.com

Aitech Defense Systems, Inc.
A member of the Ai-Rugged Group

Aitech's S950 3U CompactPCI Radiation Tolerant PowerPC® SBC is a powerful rugged CompactPCI board, specifically designed to operate in the harsh-space radiation environment for mission-critical applications such as redundant mission computer, flight guidance and navigation computer, command and data handling computer, solid-state recorder, video controller, and manipulator controller.

The S950 board is powered by a high-performance, low-power, and Silicon On Insulator (SOI) PowerPC® microprocessor. The SOI technology reduces power consumption and significantly increases processor speed and radiation tolerance. Redundancy, triple-voting, and ECC are built-in to mitigate radiation effects.

FEATURES:

- High performance and low power consumption PowerPC® 750FX processor with internal L1 and L2 cache
- 128 MB of SDRAM arranged in a triple voting architecture (3 bits per cell)
- 1 MB of dual-redundant boot and 64 MB of ECC-protected user Flash memory
- Two RS-422 serial ports and off-board GigE interface for software development
- Single-slot, conduction-cooled 3U CompactPCI card designed for LEO, Mars Terrestrial, with an option for GEO
- Level 2 components per NASA GSFC-INST-001 specification are available, 10.5W power dissipation (typ)

For more information, contact sales@rugged.com.

RSC #13601 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide Ruggedized

Aitech Defense Systems Inc.
9301 Oakdale Avenue
Chatsworth, CA 91311
Tel: 866-388-0712 • Fax: 818-718-9787

S990 Memory Module

www.rugged.com

Aitech Defense Systems, Inc.
A member of the Ai-Rugged Group

Aitech's S990 Non-Volatile Memory Module is a radiation-tolerant, latchup-protected, high-capacity Flash memory, rugged CompactPCI board designed to work in harsh-space radiation environments.

The S990 implements the Flash arrays using radiation-tolerant NAND Flash devices and a set of latchup-immune components. These devices provide reliable, latchup-free, and low-SEU-rate operation in most space environments in addition to high performance and capacity. The S990 has built-in hardware EDAC and optional latchup-protection circuitry.

The VxWorks software libraries support Aitech Flash File Driver (FFD) technology to deliver a wear-leveled file system to the user application.

FEATURES:

- 1 GB NAND Flash memory in four memory banks with 100,000 write/erase cycles
- Hardware EDAC capable of single-bit error correction and multiple-bit error detection
- Hardware has automatic power-off switch to latched-up memory to prevent damages from SEL events
- Error detection, correction, and switch-off events are communicated via programmable interrupts to the CompactPCI bus
- Flash File Driver (FFD) VxWorks software package to provide a file sytem with level-wearing features
- Low power consumption of less than 3 W

For more information, contact sales@rugged.com.

RSC #13602 @www.compactpci-systems.com/catalogrsc

Ballard Technology

3229A Pine Street
Everett, WA 98201
Tel: 425-339-0281 • Fax: 425-339-0915

OmniBus cPCI

www.ballardtech.com

Ballard's OmniBus cPCI avionics databus interface sets a new standard for flexibility and power. It is available with up to 32 ARINC 429 channels or with a mix of protocols (such as MIL-STD-1553, ARINC 429/708/717, and serial RS-422) and is suitable for a broad range of applications, from simple to the most complex. Extensive simulation, monitoring, and testing capability are provided through our powerful CoPilot GUI software and easy-to-use APIs.

An onboard PowerPC® processor can be programmed by the user to off-load or run independently of the host system processor. The OmniBus cPCI may be run locally through the backplane, or as a standalone device from user code embedded on the PowerPC.

FEATURES:

- Up to 32 ARINC 429 channels
- Parametric versions available
- IRIG time-tags and synchronization
- PowerPC user processor
- Also available in PCI, VME, or as an Ethernet/USB server

For more information, contact sales@ballardtech.com.

RSC #13701 @www.compactpci-systems.com/catalogrsc

Ruggedized
CompactPCI® and AdvancedTCA® Systems Resource Guide

Carlo Gavazzi Computing Solutions

10 Mupac Drive
Brockton, MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

714T ATR Chassis

www.gavazzi-computing.com

The 714 Series ATR Chassis is designed to meet the requirements of the ARINC 404A/MIL-STD-91403. This all aluminum chassis utilizes a dip brazing fabrication process, which completely seals the enclosure and aids in its natural convection to quickly conduct heat away from the boards and power supply. Wedge lock guides secure the boards into the rack and provide a thermally conductive path to remove heat generated by each board. Up to 135 watts can be expected from the power supply while the chassis is in a 50°C ambient environment. The power supply plugs directly into the backplane to eliminate the need for power cabling to the backplane.

FEATURES:

- 3/4, 1 long, and 1-1/2 size conduction cooled ATR (air transport rack) chassis
- Meets ARINC 404A/MIL-STD-91403
- Accommodates VME64, VME64x, and CompactPCI backplanes
- Backplane I/O breakout area and direct plug-in power supply provides a more rugged design by reducing the cables
- Highest wattage available
- Thermal simulation model available

For more information, contact gavazzi@mupac.com.

RSC #13702 @www.compactpci-systems.com/catalogrsc

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

AVC-cPCI-3000-3U

www.sbs.com

The AVC-cPCI 3000 is well suited for integration into tight spaces that typify rugged environments. At 3.5" H, 10.75" W, and 12.8" L the AVC is both strong and lightweight. At its core, a robust power supply, along with a PowerPC-based RL4 Single Board Computer (SBC) easily integrates with other CompactPCI modules to deliver reliable, cost-effective performance that you can leverage for use across and within programs.

The AVC-cPCI includes a 1553 interface, and high-speed serial and discrete I/O modules. For added reliability, SBS utilizes a CompactPCI transition module instead of a wiring harness.

For more information, contact info@sbs.com.

RSC #13801 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Modified COTS RCOM03 conductive cooled chassis
- Three 3U slots, up to five with optional backplane
- 65-watt power supply
- Tested to MIL-STD-461E, MIL-STD-1540C, and MIL-STD-1553B
- VxWorks®, LynxOS® support
- Lightweight – less than 9 pounds (4.08 kg)

CompactPCI® and AdvancedTCA® Systems Resource Guide

Ruggedized

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

AVC-cPCI-3003-3U

www.sbs.com

AVC-cPCI 3003 provides a rugged, yet highly flexible COTS computing platform suited for military aviation, civilian aviation, and other applications requiring rock-solid reliability such as UAVs, booster vehicles, and ground vehicles. Manufactured using Electrical Discharge Machining (EDM) and milling, the aluminum alloy (6061-T6) is strong, lightweight, and resistant to EMI. Instead of a wiring harness, the AVC reduces weight and increases reliability by using a lightweight printed circuit board (PCB) to route all internal I/O to the external front panel.

For more information, contact info@sbs.com.

RSC #13802 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Lightweight – less than 11 pounds (4.9 kg) including modules
- Compact for use in small spaces
- Six, 3U CompactPCI slots
- CM4 single board computer with 750/755 400-500 MHz processor, two 1 MB L2 cache, 1.6 GB/s
- MIL-C-38999 Series III connectors
- COTS AVC rugged conduction cooled chassis

SBS Technologies
2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

6U cPCI Single Board Computer

www.sbs.com

CK5 is a rugged 6U CompactPCI single board computer offered as an upgrade for the K2CC and CK3 rugged CompactPCI SBC with increased processor speeds, system bus and memory bus speeds, and system memory capacities. The CK5 hosts the PPC G4 MPC7447A processor from Motorola®, with core processor speeds up to 1 GHz, and 512 KB of onboard L2 cache. The MPC7447A processor is supported with a 167 MHz MPX system bus.

The CK5 integrates the Marvell® MV64460 (Discovery III) System Controller bridge chip, which includes a high-speed SDRAM controller with 167 MHz interface, multiple 10/100Base-Tx Ethernet MACs, and two 64-bit PCI buses. It also includes two MPSC ports and 32 multipurpose I/O pins. The CK5 offers DDR SDRAM densities of 256 MB or 512 MB.

The CK5 includes eight programmable GPIO ports with independent interrupts. Each port can be programmed for direction, input polarity, output type, and interrupt mask. The CK5 hosts two IEEE1386.1 PMC sites for expanding I/O capability with WAN or LAN I/O. The CK5 retains the same backplane PMC interfaces as the CK3 to support existing applications. PMC0 site is attached to the dedicated PCI bus 0 and can be run in any standard local PCI bus configuration. PMC1 site shares PCI bus 1 with CompactPCI backplane interface and USB 2.0 controller and is configured for 33 or 66 MHz.

The CK5 implements the PCI 6254 PCI/cPCI Bridge that allows the CK5 to operate as a system controller or peripheral processor card. The CK5 is offered as a ruggedized conduction-cooled processor card and also in a convection-cooled configuration.

The CK5 brings the latest technology to a single board computer designed for rugged environments. SBS Technologies' Ready Driver™ VxWorks software ensures that the CK5 also provides an easy upgrade path for those systems designed with the SBS' 500 MHz CK3.

FEATURES:

- Motorola® MPC7447A G4 host processor with 512 KB on-chip L2 cache
- Marvell® MV64460 PowerPC System Controller (Discovery III) bridge chip
- Ethernet 10/100 port to backplane (convection and conduction-cooled versions)
- Two IEEE 1386.1 PMC extension slots
- Two RS-232 serial I/O ports (COM1 and COM2)
- Four RS-422 serial I/O ports (COM3 – COM6)
- Two USB 2.0 ports
- Extended temperature range (–40°C to 85°C)
- Eight programmable GPIO ports with independent interrupts
- Soldered boot Flash 128 MB with multi-level write protection
- Two PCI bus interfaces
- 128 MB Flash memory

For more information, contact info@sbs.com.

RSC #139 @www.compactpci-systems.com/catalogrsc

Alliance Systems
3501 E. Plano Parkway
Plano, TX 75074
Tel: 972-733-3400 • Fax: 972-733-3499

C-4000 R2 Powerful, Highly-Available Server

www.alliancesystems.com

Designed for medium density, enterprise, and development environments, the C-4000 R2 delivers the most versatile, highly available, six-slot PICMG 2.16 H.110 platform on the market. By providing 4-nines (99.995%) availability with CompactPCI hot-swap board support, cooling, and system alarms, this system is built to meet medium density communications applications.

CompactPCI servers are based on an architecture that reduces integration requirements and supports enhanced fault management, configuration management, and performance management. In addition, these servers offer a range of value-added features that help increase the availability, maintainability, and manageability of embedded computing solutions.

Mega power in a small box
Ideal for VoIP gateways, telephony servers, enterprise contact centers, PBXs or the central office, the C-4000 R2 delivers reliability while taking up minimal space in a rack environment. Additional applications suited for the C-4000 R2 include service nodes, intelligent peripherals, data acquisition, computer-based instrumental, industrial automation and process control, as well as general networking.

The Packet Switched Backplane (PSB) option
The C-4000 R2 uses Ethernet-based packet switched backplane technology and is compliant with PICMG 2.16 standards. This eliminates the single-point-of-failure possibility that exists in older industry designs. With two dedicated CompactPCI host slots, the 2.16 switch provides CompactPCI hot-swap board support, cooling, and a system alarm that reduce Mean Time to Replace (MTTR) to an absolute minimum.

FEATURES:

- Intel® Pentium III at 1 GHz CompactPCI
- 1 GB SDRAM standard
- Two 10/100Base-T Ethernet connections
- Integrated 40 GB 2.5-inch ATA 100 enhanced duty hard drive
- System BIOS password and operating system password (administrator)
- Seven CompactPCI 6U peripheral cards compliant with PICMG 2.0, 2.5, and 2.16 PSB specifications
- Three internal fans
- Three 250W PSU, configurable for 110V or 220V operation; DC option available
- 4U rack-mount server
- Microsoft Windows 2000, Linux
- Advanced IPMI monitoring and alarming
- Covered by two-year warranty with optional extended warranties and technical support upgrade plans

For more information, contact sales@alliancesystems.com.

RSC #140 @www.compactpci-systems.com/catalogrsc

Pentek, Inc.
One Park Way
Upper Saddle River, NJ 07458
Tel: 201-818-5900 • Fax: 201-818-5904

Software Radio Transceiver cPCI Board

www.pentek.com

The Model 7240 6U CompactPCI board combines both transmit and receive capability with two high-performance Virtex II-Pro FPGAs. The board was designed to maximize configuration flexibility and optimize synchronization for software radio applications such as SIGINT, JTRS, and telecommunications.

The front end of the module accepts four +4 dBm full-scale analog RF inputs and transformer-couples them into 14-bit A/D converters running at 80 MHz or 105 MHz. The digitized output signals pass to the Virtex-II Pro FPGAs for signal processing or routing to other board resources including the downconverters, upconverters, D/As, DDR SDRAM delay memory, and the PCI bus.

The FPGA also serves as a control and status engine with data and programming interfaces to each of the onboard resources. Factory installed FPGA functions include data multiplexing, channel selection, data packing, gating, triggering, and SDRAM memory control.

Because the FPGA controls the data flow within the module and provides signal processing, the board can be configured for many different functions. In addition to acting as a simple transceiver, the board can perform user-defined DSP functions on the baseband signals, developed using Pentek's GateFlow and ReadyFlow development tools. These functions can include modulation/demodulation, encoding/decoding, encryption/decryption, digital delay, and channelizing the received or transmitted signals.

FEATURES:

- Quad digital upconverter/downconverter handles 40 MHz bandwidth RF or IF signals
- Four 105 MHz 14-bit A/Ds and four 16-bit 500 MSPS D/As with transformer-coupled input and output MMCX connectors
- Eight digital downconverters and two digital upconverters
- Dual Xilinx Virtex-II Pro FPGAs with PowerPC cores to create complete application engines
- Configurable data routing puts FPGA processing in the baseband data stream
- LVDS clock/sync bus for multi-board synchronization supports synchronous sampling across all connected boards
- 1024 MB of DDR SDRAM to buffer data for digital delay or data capture
- Up to 2.56 seconds of delay or data capture at 100 MHz
- Dual timing buses for independent input and output clocks
- Pentek GateFlow FPGA Resources: FPGA Design Kit, IP cores, and preinstalled cores
- Pentek ReadyFlow Board Support Libraries for quick board startup and operation
- Dual digital upconverter/downconverter 3U CompactPCI, PMC/XMC, PCI, and PMC/XMC conduction-cooled versions available

For more information, visit www.pentek.com/go/cPCI7240.

RSC #141 @www.compactpci-systems.com/catalogrsc

Geotest-Marvin Test Systems, Inc.

17570 Cartwright Road
Irvine , CA 92614
Tel: 949-263-2222 • Fax: 949-263-1203

GX6021

www.geotestinc.com

The GX6021 is a high-density 3U PXI RF switching card that provides 200 MHz bandwidth and offers four groups of 1 x 4 multiplexer scanners.

In each multiplexer group of the GX6021, each channel can be connected to any of the other four channels in its group. Additional relays connect adjacent groups. Using these additional relays, larger groups can be formed such as 2 x 1:9, or 1 x 1:19. The GX6021 groups can be software-configured to provide switch paths that maintain 200 MHz bandwidth.

FEATURES:

- High-density PXI RF multiplexer
- Four groups of 1 x 4 mulitplexer scanners
- Groups may be daisy-chained
- >200 MHz bandwidth
- 3U PXI board

For more information, contact gretchena@geotestinc.com.

RSC #14201 @www.compactpci-systems.com/catalogrsc

CompactPCI® and AdvancedTCA® Systems Resource Guide

Switches & routers

Performance Technologies

205 Indigo Creek Drive
Rochester, NY 14626
Tel: 585-256-0200 • Fax: 585-256-0791

CPC6600 Ethernet Switch

www.pt.com

The CPC6600 is an embedded Ethernet switch compatible with both CompactPCI® and PICMG® 2.16 backplanes. It is designed to be used as a high-speed interconnect within server blade chassis or as a core switch in fault-tolerant clusters of embedded systems.

The CPC6600 provides increased bandwidth, performance, and reliability in HA applications such as defense, IP telephony, and broadband. With it, users can realize performance gains of up to 40 times that of current PCI-based architectures. The CPC6600 has been designed to make system integration easier, while maximizing network performance and flexibility.

FEATURES:

- 24 10/100/1000Base-T Ethernet ports
- Wire-speed Layer2/Layer3 routing
- 44Gbps switching speed
- Front or rear panel uplink
- Real-time continuous integrity checks
- Rapid spanning tree, link aggregation, VRRP, and jumbo frame support

For more information, contact info@pt.com.

RSC #14202 @www.compactpci-systems.com/catalogrsc

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

CP6-GIGSW8-C1AB-6U

www.sbs.com

SBS' CP6-GIGSW8-C1xx is an eight-channel, non-blocking Gigabit Ethernet switch with low power requirements and flexible configuration for CompactPCI 6U embedded computing applications. The switch performs eight-port non-blocking, Layer-2 Ethernet switching at Gigabit Ethernet speed with minimal host CPU involvement. The onboard microcontroller configures and maintains the switch's internal registers. CP6-GIGSW8-C1xx has a modular design that allows easy customization for specific application interface needs. CP6-GIGSW8-C1xx has an 8K address table with auto-learning capability and 512 KB of data packet memory. Dropped packet rate is minimized by per-port Ethernet flow control.

For more information, contact info@sbs.com.

RSC #14301 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Eight-channel, non-blocking Gigabit Ethernet switch
- 6U CompactPCI form factor
- Front panel access via up to two four-port physical interface modules
- Media options include eight copper ports, eight fiber ports, or four copper and four fiber ports
- Onboard microprocessor configures and controls switch registers – no host CPU drivers needed
- Full hot-swap capability support

Continuous Computing
9380 Carroll Park Drive
San Diego, CA 92121
Tel: 858-882-8800 • Fax: 858-777-3388

Continuous Computing
Create | Deploy | Converge

Flex21™ CompactPCI Product Family

www.ccpu.com

Targeting the scalable application needs of next-generation telecommunications markets, the Flex21 CompactPCI product family provides the ideal platform solution for telecom equipment manufacturers seeking superior serviceability, manageability and power.

Continuous Computing was the first company to design and build SPARC-based CompactPCI systems, as well as the first to ship CompactPCI Gigabit Ethernet switches. This leadership continues today.

Tier 1 customers worldwide choose Flex21 to ensure successful deployment of carrier-grade wireless and voice-over-packet applications ranging from MSCs and SGSNs to softswitches and media gateways.

Engineered for carrier-class performance, Flex21 combines NEBS Level 3 design with third-generation platform serviceability and management features to ensure low total cost of ownership. With features that include the highest slot density available, industry-leading ability to independently power and cool up to 75W per slot and redundant IPMI-based management and alarming, the Flex21 chassis offers unequaled flexibility to meet the platform needs of OEMs.

Serving as the foundation of Continuous Computing's broad portfolio of CompactPCI solutions supporting Intel, PowerPC, and SPARC processing architectures, Flex21 is a custom-configurable platform designed specifically for the telecom market and built on industry standards.

Coupled with Continuous Computing's complete family of CompactPCI bladed solutions, Trillium® protocol software, and upSuite® platform management, Flex21 platforms provide the fastest path from application development to deployment revenue.

From IP media servers to 3G network nodes, Flex21 is the CompactPCI product family of choice for deploying a wide range of high-performance, scalable telecom applications.

FEATURES:

- A new standard for open architecture: Supports Intel, PowerPC and SPARC processing architectures
- Combines PICMG 2.16 support at gigabit speeds with H.110 telephony bus and radial IPMI-based management
- Reliability is maximized with redundant Ethernet, IPMI and alarm connectivity
- Redundant management controllers, fan trays, power inputs, and Ethernet switches
- Out-of-band management w/IPMI ensures access to control and monitoring functions even when CPUs are unavailable
- Serial console ensures reliable management connectivity and supports access to the serial console port of any blade
- CompactPCI solutions support high availability performance when coupled with fault-tolerant Trillium® protocol software
- Flex21™: Third-generation NEBS compliant 13U chassis supporting 75W/slot
- LINUXblade™ PM-1116 and XE-2220: High-performance Intel Pentium M and dual LV Xeon processing
- PACKETblade™ IXP-2406: High-performance Intel IXP-2400 network processing
- SWITCHblade™ 24G and 24+2R: Fully managed Gigabit Ethernet switching

For more information, contact info@ccpu.com.

RSC #144 @www.compactpci-systems.com/catalogrsc

Elma Electronic
44350 Grimmer Blvd.
Fremont, CA 94536
Tel: 510-656-3400 • Fax: 510-656-3783

ELMA
Your Solution Partner

Type 15H –19" Rackmount, 2.16 HA Chassis

www.elma.com

The Elma Type 15H 19" Rackmount/desktop chassis is fully compliant to IEEE 1101.10/.11 and measures 9U (H) x 84HP (W) x 290mm (D). Backplanes are available in 4, 6, 8, or 16 slots, compliant to PICMG 2.0, 2.16, 2.17, 2.20 (H.110 optional). Features include redundant cooling front to rear with 3 x 90 CFM below cards, and 2 x 40 CFM radial blowers above the cards. Advanced EMC shielding is designed to meet CE, FCC Class A, and NEBS. This unit is also available with a wide range of PSU inputs (90-264 VAC, 48 VDC), with fixed mount plug-in and N+1 options. PICMG 2.9-compliant, IPMI Shelf Management is optional.

The Elma Type 15 chassis feature an elegant design and versatile platform with advanced EMC shielding and a rugged construction for industrial use. A wide range of options and configurations are available as well as custom sizes and designs. The basic chassis features powder-coated covers for an attractive, scratch-resistant finish with tilt feet. All chassis are assembled, wired, and tested prior to shipment.

FEATURES:

- 9U (H) x 84HP (W) x 290mm (D)
- 16 slot, 6U x 160mm, front
- 16 slot, 6U x 80mm, rear I/O
- 16 slot BP, (PICMG 2.16, 2 x FS, wo/H.110)
- Front to rear, redundant cooling
- 3 x 90 CFM fans, 2 x 50CFM radial blowers
- 2 x 350W PSU-6U, plug removable, N+1
- IPMI Shelf Management optional
- Ready to run, turnkey solution

For more information, contact sales@elma.com.

RSC #145 @www.compactpci-systems.com/catalogrsc

Embedded Communications Computing
2900 S. Diablo Way
Tempe, AZ 85282
Tel: 800-759-1107 • Fax: 602-438-3195

MOTOROLA

CompactPCI Application-Enabling Platforms

www.motorola.com/computing

The Motorola Centellis™ CO 21KX is a carrier-grade PICMG® 2.16 CompactPCI® packet switching backplane platform in a NEBS Level 3 capable CompactPCI chassis. Combining redundant hot-swappable Ethernet switches, hot-swappable system components, and a fault-resilient architecture, the Centellis CO 21KX delivers 5NINES availability for critical telecommunications and networking applications.

With an architecture designed for 5NINES availability, the Centellis CO 21KX embedded PICMG 2.16 platform minimizes both planned and unplanned downtime and provides continuous service during fault recovery. The Centellis CO 21KX provides this level of protection through a combination of redundancy at the component level to avoid single points of failure; repair and upgrade of the running system without impacting the system service; remote access for monitoring, control, and upgrade; clear guidance throughout component replacement procedures and NEBS Level 3-capable design.

The Motorola EndurX™ CO 21KX platform is an integrated application-ready platform with redundant platform controllers providing an SNMP remote management interface, HA middleware, software upgradability with fall-back functionality in a fully redundant HA architecture to enable 5NINES application availability. Based on a PICMG 2.16-compliant, NEBS Level 3 design, the system offers dual redundant Carrier Grade Linux/Intel architecture processor nodes configurable up to 19 nodes overall. Redundant Gigabit Ethernet switches and shelf management controllers are standard.

For more information, contact inquiry@mcg.mot.com.

RSC #146 @www.compactpci-systems.com/catalogrsc

FEATURES:

Centellis CO 21KX Features

- 12U/19" CompactPCI framework to deliver 5NINES availability
- Fault-resilient design minimizes hardware induced failures
- CompactPCI hot swap capability minimizes mean-time-to-repair
- PICMG 2.16-compliant packet switching backplane
- Ethernet switches and shelf controllers on same board, redundant and hot-swappable
- Designed for NEBS Level 3 for telecom Central Office (CO) applications

EndurX C0 21KX Features

- PICMG 2.16-compliant CompactPCI packet switching backplane with 19 6U node slots
- Dual redundant Carrier Grade Linux/Intel architecture processor-based nodes
- Redundant Layer 2 Gigabit Ethernet switches and shelf management controllers
- High availability framework API for HA-aware applications
- Policy-driven event handling/propagation
- Flexible software upgradability

Embedded Communications Computing
2900 S. Diablo Way
Tempe, AZ 85282
Tel: 800-759-1107 • Fax: 602-438-3195

MOTOROLA

CompactPCI Application-Enabling Platforms

www.motorola.com/computing

The Motorola MXP series of carrier-grade Application-Enabling Platforms offers a flexible and scalable solution to address next-generation applications at the edge of he converged network, such as softswitches, media gateways and controllers, and edge routers.

The foundation of the MXP series is a high availability chassis, with an internal switched Ethernet network, compliant with the PICMG® 2.16 CompactPCI Packet Switching Backplane specification. This makes the MXP particularly suitable for the growing number of IP-based applications.

The MXP3x21 chassis offers 18 payload slots in a 12U, high availability enclosure. The MXP3x11 chassis offers 11 payload slots in an 8U, high availability enclosure. Slots can be configured with combinations of blades from our range of MXP payload options, including general-purpose processor blades, network processor blades, and digital signal processor blades. Each payload option has been designed and tested to work with the IPMI-based MXP system management infrastructure.

To meet high availability requirements, all power supplies, management subsystems, and IP switching modules work in a redundant configuration. The MXP3x21 and MXP3x11 chassis draws on Motorola's telecom infrastructure expertise, enabling you to simplify and converge your applications into a single high availability platform.

FEATURES:

- Nine or 18 payload slots for flexibility and scalability
- Supports extensive range of payload options for a wide variety of applications
- Gigabit Ethernet capable PICMG 2.16 backplane gives high throughput and scalability
- Redundant power supplies drive 50 watts per slot for high performance payload boards
- Dual redundant alarm management controllers with IPMI-based architecture
- Front to rear cooling flow allows maximum rack and cabinet density

For more information, contact inquiry@mcg.mot.com.

RSC #147 @www.compactpci-systems.com/catalogrsc

Embedded Communications Computing
2900 S. Diablo Way
Tempe, AZ 85282
Tel: 800-759-1107 or 602-438-5720 • Fax: 602-438-3195

MOTOROLA

CompactPCI Configurable Systems

www.motorola.com/computing

CPX High Availability Configurable System

CompactPCI® technology offers the performance and processor independence of the PCI bus and creates a flexible embedded computing technology that is ideal for telecommunications as well as other high availability type applications. The Motorola CPX8216 system is a dual eight-slot, 12U, carrier-grade platform with a CompactPCI backplane (with or without an H.110 bus), designed especially for high-availability telecommunication infrastructure applications requiring NEBS and ETSI certification.

With its 5NINES high availability design, the CPX8216 system can be counted on when you need reliability and availability accompanied by Motorola's superior level of product support. The CPX8216 is used to support a variety of telecommunication applications such as media gateways, packet data gateways, and media routers, as well as voice messaging and VOIP applications. It is the flagship product of the Motorola CPX product line and has been sold since 1999 with thousands of systems in use around the world.

ModuSys 4U CompactPCI System

The ModuSys™ 4000 is a modular, flexible, and cost-effective CompactPCI system. Most important of all, the ModuSys 4000 system can reduce development time and time to market for applications in the data communications, broadcast, industrial control, medical, command and control, and non-NEBS telecommunication industries.

FEATURES:

CPX8216 family features:

- 12U, dual eight-slot chassis with H.110 bus option
- Built-in redundancy of all major subsystems
- Well suited for building media gateways, call servers, VoIP gateways, and Internet edge switches

ModuSys features:

- 4U CompactPCI system with eight slots
- Intel® Pentium® M or PowerPC® processor single-board computer options
- 19-inch rackmount system
- Compliant with PICMG® 2.1 (Hot Swap) and PICMG 2.5 (Computer Telephony) specifications
- Industrial-grade 200W AC CompactPCI style PSUs for improved reliability and EMC
- Optional PICMG 2.1 system management support

For more information, contact inquiry@mcg.mot.com.

RSC #148 @www.compactpci-systems.com/catalogrsc

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
Tel: 650-786-0614

Netra™ CT410/810 cPCI Blade Server

www.sun.com/netra

The Netra CT410/810 blade servers offer Sun's Solaris™ Operating System and High Availability (HA) software in a carrier-grade CompactPCI blade server. They meet the server density, HA, manageability, and serviceability needs of the network equipment provider, while enabling customers and partners to use a single, scalable, standards-based systems architecture from the central office to the network's edge.

The NEBS Level 3-certified and ETSI-compliant Netra CT410/810 blade servers feature hot-swappable I/O expansion slots and redundant hot-swap fans. All active Field Replaceable Units (FRUs) are front-accessible for quick and easy servicing. Moreover, the ability to fit a combination of these servers neatly side-by-side within a Netra CT chassis makes this the ideal, flexible, modular solution for communications and service provider infrastructures.

Netra CT410 Blade Server
Designed for maximum flexibility and configurability, the Netra CT410 server features three CompactPCI slots, a 650 MHz UltraSPARC IIi processor blade, up to 4 GB of memory per blade, and up to two 73 GB Ultra SCSI hard drives. Four Netra CT 410 servers, or two Netra CT 410 servers and one Netra CT 810 server, can fit in one Netra CT chassis, which in turn deploys into a standard 19-inch rack (with adapters for 23-inch, 24-inch, and 600 mm racks).

Netra CT810 Blade Server
The Netra CT810 server features seven CompactPCI slots, a 650 MHz UltraSPARC IIi processor blade, up to 4 GB of memory per blade, two 73 GB Ultra SCSI hard drives, and an optical drive. Two Netra CT810 servers, or one Netra CT810 server and two Netra CT410 servers, can fit in one Netra CT chassis, which in turn deploys into a standard 19-inch rack (with adapters for 23-inch, 24-inch, and 600 mm racks).

For more information, contact netrainfo@sun.com.

RSC #149 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Up to seven individually powered CompactPCI (cPCI) slots
- Carrier-grade Sun Solaris™ Operating System
- Part of a comprehensive line of NEBS certified systems, storage, and management/availability software from Sun
- PICMG-standard, HA-level, hot-swappable I/O slots
- Remote, electronic identification of Field Replaceable Unit (FRU)
- Conformance to industry specifications such as PICMG, TMN, ETSI and CIM

Management and availability

- Redundant power, management, and Ethernet data networks
- Advanced Lights-Out Management (ALOM)
- Management Object Hierarchy for representing system and elements

Capacities for Netra CP2140/2160 processor blades

- 650 MHz UltraSPARC IIi processor with 512 KB on-chip L2 cache
- Up to 4GB memory per blade
- Up to 2 PMC slots
- Up to 2 Ultra Wide SCSI interfaces
- Two 10/100 Mbps Ethernet, 2 Serial, 2 USB interfaces

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
Tel: 650-786-0614

Netra™ CT820 cPSB Blade Server

www.sun.com/netra

The NEBS Level 3-certified Netra™ CT820 CompactPCI packet-switched backplane blade server is designed to meet high availability, serviceability, and manageability requirements of Network Equipment Providers (NEPs) deploying wireless, wireline, and Internet services in a communications network.

Running on the robust, industry-proven Solaris™ Operating System (OS), allows customers to run previous, as well as future, Solaris OS applications without modifications. Supporting up to 18 hot-swappable blades, such as the Netra CP2300 Telecom blade in a 12U chassis, the cPSB-based Netra CT820 blade server offers an exceptional level of modularity for server applications.

The Netra CT820 blade server provides an extremely flexible, highly-manageable platform that enables NEPs to focus on application development and service delivery without having to assemble the underlying compute platform from building blocks of blades, chassis, management, switches, operating system, and HA software.

The Netra CT820 blade server features hot-swappable fan trays, switches, system management cards, disk drives, and power supplies, as well as a pair of configurable, redundant 24-port 10/100-Mbps Ethernet switches.

FEATURES:

- Up to 18 cPSB, HA-level, hot-swappable slots
- Part of a comprehensive line of NEBS certified systems, storage, and management and availability software from Sun
- Carrier-grade Solaris operating system
- Industry leading management and availability software
- Compliance with telecom industry standards including PICMG, ETSI, CIM, and TMN

Management and availability

- Redundant power supplies, management, and Ethernet data networks
- Advanced Lights-Out Management (ALOM)
- Management object hierarchy for representing system and elements

Capacities for Netra CP2300 processor blades

- 650 MHz UltraSPARC IIi processor with 512 KB on-chip L2 cache
- Large memory capacity (up to 2.5 GB of memory)
- Two 10/100 Mbps Ethernet interfaces
- One PMC slot
- Two UltraWide SCSI, two Serial, two USB interfaces

For more information, contact netrainfo@sun.com.

RSC #150 @www.compactpci-systems.com/catalogrsc

Inova Computers, Inc.
18275 North 59th Avenue, #152
Glendale, AZ 85308
Tel: 602-863-0726 • Fax: 602-863-0796

SAVINGS-BOX – ICP-SYSC-LC

www.inova-computers.com

By understanding the shifting trends and market dynamics, Inova has created a future-oriented, innovative product that is based on the industry-proved stability of 3U CompactPCI, but pitched at a price typically reserved for industrial PCs.

The ICP-SCSC-LC is a complete 3U, 30 HP system featuring the latest processing technology, as well as three free CompactPCI expansion slots to meet the target application requirements.

Performance scalability is ensured by embracing the complete spectrum from Intel's embedded processor roadmap; from the ultra-low-voltage 600 MHz Celeron M, right up to the latest and highest performance, 2.x GHz Pentium M processor. Power consumption and hence the choice of passive or active cooling can therefore be regulated to suit the operational environment.

The CPU boards are furnished with a standard CompactFlash socket for use by modern operating systems such as the real-time VxWorks or Embedded XP for maintenance-free, high availability applications. This combination delivers yet another competitive edge since, during its operation life, those costs typically associated with regular housekeeping maintenance are saved. The use of "automotive-grade" hard disks, qualified for operation at temperatures between –20°C to +17°C, ensure added durability – particularly for applications in harsh environments such as those found in mobile (transportation) sectors.

The international acceptance and stability of the 3U CompactPCI standard combined with the inherent robustness of 19" technology were the inspiration behind the "Savings-Box." Complete with the high-performance Celeron M CPU, the "Savings-Box" is available for rugged applications starting at $1,490.00.

FEATURES:

CPU

- 600 MHz ULV Celeron M or 1.6 GHz Pentium M CPU
- Up to 1.5 GByte 333 MHz DDR RAM
- SiS chipset graphics or 32 MB ATI Radeon option
- VGA/DVI/TFT supported video formats
- Up to 2048 x 1536 pixel video resolution
- Gigabit and Fast Ethernet interfaces
- Up to 3x USB 2.0 interfaces
- Built-in CompactFlash socket
- Intelligent rear I/O switch fabric
- Prepared for Windows XP Embedded

System

- Rugged 3U CompactPCI design
- Four-slot CompactPCI backplane
- Mounting brackets on front, bottom or rear
- 0°C to +60°C operating temperature
- MTBF > 200,000 hours

Power supply

- 70W AC/DC PSU
- 3x outputs (+3.3V, +5.1V, +12V)
- Suitable for operation with the Inova UPS

For more information, contact sales@inova-computers.com.

RSC #151 @www.compactpci-systems.com/catalogrsc

Tyco Electronics/Printed Circuit Group
1699 King Street
Enfield, CT 06082
Tel: 860-386-2000 • Fax: 860-386-2100

Backplane & Chassis Assemblies

www.tycoelectronics.com/products/ATCA

Tyco Electronics has introduced a line of backplanes and chassis assemblies to meet the requirements of the PICMG 3.0 specification for ATCA.

ATCA rackmount chassis
Our next-generation chassis is 13U high and features a 14-slot "Dual Star" backplane using Tyco Electronics HmZD connectors and power connectors. Other features include 200 watts/slot cooling, push-pull fan trays with speed control, –48V Power Entry Modules, internal or external shelf management, and front/rear cabling provisions. A "Full Mesh" backplane will be available 2Q05.

Customized system design and manufacturing services
Tyco Electronics is a recognized leader in the design and assembly of state-of-the-art backplane systems. Our CompactPCI designs are currently incorporated in two of the industry-leading wireless base station systems. This capability is available to meet your specialized ATCA requirements. Our engineering group can design and model a system to meet your specifications. Our unique QuadRouting technique offers the capability to design 5+ Gbps backplanes with reduced layer count and reduced cost.

With the largest printed circuit manufacturing capability in North America, we can supply advanced line cards and back-panels for ATCA-based systems. Our assembly facilities in North America and Asia can supply systems, backplanes, and accessories for standard and customized ATCA designs.

FEATURES:

- Electronic packaging solution specialist
- 13U 14-slot rackmount (19" & 23") ready systems
- Standard and customized ATCA systems:
  – Dual Star, Full Mesh, and Dual-Dual Star backplanes
  – Redundant, hot-pluggable "push-pull" fan trays
  – Redundant, hot-pluggable –48V Power Entry Modules
  – Redundant, hot-pluggable Shelf Management Modules
- Alternate configurations available for onboard shelf management
- Cable management schemes for front/rear
- Design services available worldwide:
  – Unique QuadRouting technique
  – System modeling and simulation services
  – Complete thermal simulation and testing services
  – System qualification to industry standards
  – Printed circuits for line cards and backplanes
  – Complete chassis assembly services
  – ISO qualified assembly facilities in North America and Asia
  – Total system support from Tyco Electronics

For more information, contact product.info@tycoelectronics.com.

RSC #152 @www.compactpci-systems.com/catalogrsc

Geotest-Marvin Test Systems, Inc.

17570 Cartwright Road
Irvine, CA 92614
Tel: 949-263-2222 • Fax: 949-263-1203

ATEasy 5.0 Software

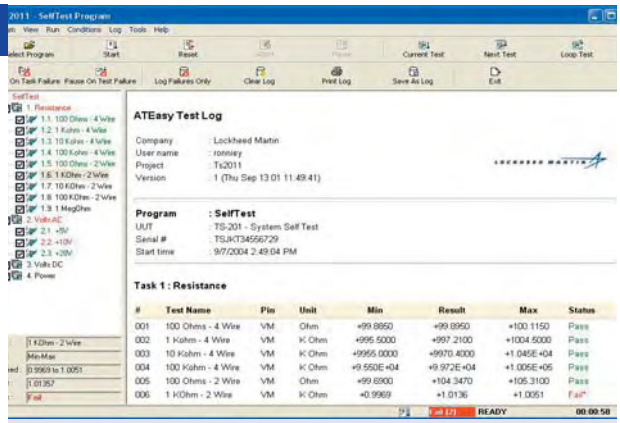
www.geotestinc.com

ATEasy 5.0 is a rapid application development framework for functional test, ATE, data acquisition, process control, and instrumentation systems. ATEasy provides all the necessary tools to develop and maintain software components from instrument drivers to complex test programs. It is designed to support and simplify ATE projects with long life cycles.

ATEasy 5.0 offers many new features, including an enhanced test executive with a touch-screen user interface and a multitude of new commands; a fault library, which offers a powerful troubleshooting tool for electronic circuits; and open architecture improvements such as built-in support for IVI drivers and .NET components.

For more information, contact sales@geotestinc.com.

RSC #15301 @www.compactpci-systems.com/catalogrsc



FEATURES:

- 32-bit, object-oriented programming framework
- Instrumentation/test-system-like modular structure
- Rapid Application Development (RAD) environment
- Built-in test executive and profile editor
- Generates royalty-free runtime executables
- Generates HTML and text-based test logs

Radian Heatsinks, a division of Intricast Company, Inc.

2160 Walsh Avenue
Santa Clara, CA 95050-2512
Tel: 800-689-2802 • Fax: 408-988-0683

cPCI Thermal Analysis

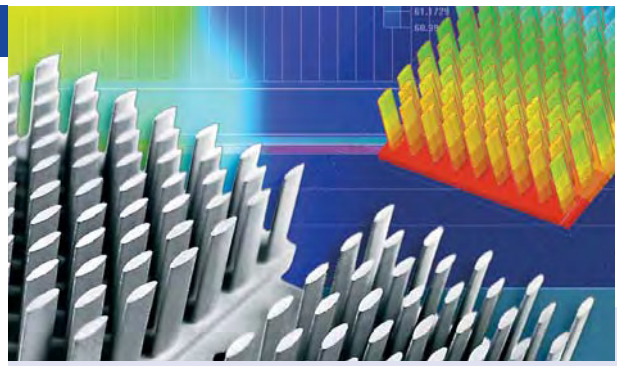
www.radianheatsinks.com

For CompactPCI applications that require custom cooling, Radian offers detailed thermal analysis and validation services using powerful Computational Fluid Dynamics (CFD) and proprietary simulation packages. With this effective modeling technology, our on-site thermal design engineers can asses your designs throughout the development cycle – at component, board, and system levels. By directly loading your CAD files into our CFD package, we can conduct the analyses you need and deliver results within a short time frame.

Radian also offers standard, low-profile BGA heatsinks that provide optimum cooling for various BGA/SM packages, and are compatible with most CompactPCI, AdvancedTCA, and PC/104 form factors.

For more information, contact radiansales@radianheatsinks.com.

RSC #15302 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Complementary CFD analysis and simulation services available
- Tailored heatsink design engineering assistance provided
- Versatile manufacturing and finishing capabilities for cost-effective production
- INE and EZ Snap BGA heatsinks available in sizes from 21mm to 45mm footprints for standard CompactPCI applications
- Low-profile BGA heatsink heights range from 7.11mm to 9.8mm
- Contact Radian for complementary CFD analysis, engineering assistance, rapid prototyping, and volume solutions

Next-generation telecom services will fuel Advanced Switching Interconnect (ASI) adoption

By Wade Appelman, VP of Marketing and Business Development

As the recovery of the telecom economy continues, service providers are under great pressure to increase revenues by providing a rapidly growing set of services. These non-traditional services blur the former distinction between voice and data network providers. Some of the new services have been qualified as winners, such as Voice over Internet Protocol (VoIP) and Video on Demand (VoD), while a host of other concepts is struggling for market acceptance. Aggressive investment in new capabilities carries high risk, and the providers who move too cautiously are left in the dust. The scramble by the wired and wireless service providers to provide advanced capabilities is taking place against a background of intense cost competition and shrinking development, operating, and capital budgets. This pressure passes on to the equipment providers who are trying to increase capabilities and meet configuration flexibility requirements at lower price points.

Telecom Equipment Makers (TEMs) have been through a historic down cycle. Their reduced engineering staffs are looking more than ever at externally sourced technology to replace proprietary ASIC designs, as well as their inherent long development cycles and associated costs. Time to market and modular hardware and software are driving the TEMs to move away from proprietary solutions and embrace standards-based layered design approaches. Proprietary technology will not disappear, but its deployment will be limited to areas where there is a clear performance need. In this approach, TEMs might add proprietary secret sauce to modular, open standards-based platforms to produce a new generation of carrier equipment with the advantages of the PC server design approach. Adoption of open standards will encourage development of best of breed economies of scale at all levels of integration.

AdvancedTCA is the physical enclosure standard that will provide the base technology defining the mechanical, thermal, and electrical environment for next-generation carrier grade computing. Targeted to stand above the CompactPCI enclosure in terms

of module size, power, and cooling, AdvancedTCA intends to meet TEM needs for years to come. The AdvancedTCA specification provides for a standard module connector, yet allows a choice of backplane interconnects. PICMG has already adopted specifications for Ethernet, InfiniBand, StarFabric, and PCI Express/ASI. Other fabric technologies, including proprietary solutions, are possible within the base specification. However, to achieve the optimal economies of scale in the AdvancedTCA world, equipment manufacturers will best be served by adopting a *de facto* standard fabric. Taking a lesson from the PC business model history, the adoption of the ATX form factor and PCI technology heralded a major shift in product design. That shift continued through successive evolutionary generations of the physical module and the bus interconnect to provide standards-based computing at the desktop and server level as seen in today's PCs with BTX modules and PCI Express.

Carrier-grade computing is at a similar decision point. Will it standardize on a dominant fabric, or does diversity flourish at the interconnect level? History points toward a rapid consolidation. There appear to be two serious contenders to the claim of backplane dominance, Ethernet and PCI Express/ASI. Both have some claim to the title.

Ethernet has established itself as the LAN technology and has been adopted as a cluster computing interconnect and communications control plane technology, not necessarily to fit the challenges, but because of its wide availability and familiarity among the engineering community. However, Ethernet is lacking when it comes to desirable backplane technology characteristics. It offers limited Quality of Service (QoS), no congestion management solution, suffers from a large CPU overhead to process the IP header, and has limited capability for transporting anything other than Ethernet packets.

ASI extends the PCI Express technology with the needs of communications applications firmly in mind. It has inherent QoS and advanced congestion management, reliability through error checking and path redundancy (up to full mesh topologies), scalability, and low CPU overhead. ASI is designed to efficiently transport any packet format through a tunneling scheme in the backplane with end-point bridges handling the formatting task. If ASI were a standalone technology, its success in communications applications based on its feature set would be a strong bet. PCI Express volumes will assure a solid infrastructure, and ASI will benefit from its common physical layer and simple interface to PCI Express end points. The widespread deployment of PCI Express and its associated economies of scale move the technology from levels of probability to near inevitability.

The year 2005 will be the beginning of the communications industry's conversion from the big iron proprietary model to a model based on and tied to the economies of scale that have driven the progress and success of the PC desktop and server markets. Demand for configurable, modular platforms will insure the success of AdvancedTCA and Advanced Switching technologies.

For more information, visit www.stargen.com.

Mellanox Technologies

2900 Stender Way
Santa clara, CA 95054
Tel: 408-916-0008 • Fax: 408-970-3403

InfiniBand 10Gb/s PCI Express Host Bridge

www.mellanox.com

The InfiniHost III Ex is a Mellanox third-generation InfiniBand host channel adapter (HCA) device with a PCI Express x8 interface. This device unleashes enhanced I/O performance and is designed to saturate dual 10 or 20 Gb/sec InfiniBand links and leads the market in performance, throughput, and low latency.

Also available is the most robust, comprehensive, and widely tested driver and software suite in the industry for embedded applications.

FEATURES:

- Single-chip InfiniBand HCA, Dual 4x 10 or 20Gb/s ports with PCI Express x8 host interface
- Full hardware transport with RDMA for extremely low CPU overhead with world-class bandwidth and low latency
- MemFree mode eliminating the need for local HCA memory
- Robust, open-source Linux drivers and upper layer protocols available
- Supports industry standard protocols for accelerated computing, storage, file systems, and communications

For more information, contact daves@mellanox.com.

RSC #15601 @www.compactpci-systems.com/catalogrsc

One Stop Systems

2235 Enterprise Street
Escondido, CA 92029
Tel: 877-438-2724 • Fax: 760-745-9824

MaxExpress Expansion System

www.onestopsystems.com

The MaxExpress bus expansion system is the first expansion system to extend either a PCI Express or PCI-X bus of a host system to any of multiple form factors including PCI Express, PCI, PCI-X, PXI, or CompactPCI. The connection between host and expansion chassis is four times the bandwidth of traditional StarFabric expansion systems and up to eight times the bandwidth of other custom PCI expansion systems. The expansion chassis can reside up to 6 meters away from the host using copper cable or many kilometers using fiber optics. By interconnecting several Cable Express chassis using MaxExpress 1U PCI Express switches, high-speed expansion systems in excess of 100 add-in boards are possible.

FEATURES:

- Choose a PCI Express or PCI-X host interface board with 20-40 Gbps bandwidth cable link
- Choose a copper expansion cable up to 6 meters in length or a fiber optic cable many kilometers in length
- Choose a 3U or 4U expansion enclosure for PCI Express or PCI add-in boards – OR –
- Choose from our large catalog of CompactPCI or PXI enclosures for expanding to 3U or 6U add-in boards
- Choose the appropriate expansion link board and backplane slot count for the enclosure type chosen above
- Add more than 100 add-in boards from a single host using MaxExpress 1U PCIe switches and more expansion enclosures

For more information, contact sales@onestopsystems.com.

RSC #15602 @www.compactpci-systems.com/catalogrsc

National Instruments
11500 N. Mopac Expressway
Austin, TX 78759
Tel: 888-280-7645 • Fax: 512-683-8411

NI PXI M Series DAQ

www.ni.com

More performance

The core of each M Series device is the new NI-STC 2 synchronization and timing controller, which allows up to six operations to execute simultaneously at throughput rates up to five times faster than previous DAQ devices. M Series also offers a revolutionary design for calibration at every input range, improving measurement accuracy by up to five times, and extending the recommended calibration interval on most M Series devices to two years. The redesigned NI-PGIA 2 family of programmable gain instrumentation amplifiers dramatically reduces settling time to ensure accurate measurements even at the fastest scanning rates.

More I/O

Two core M Series technologies, the NI-STC 2 and NI-PGIA 2, deliver maximum I/O on a single device. NI-STC 2 technology delivers up to 48 protected digital I/O lines, and 32 of those lines accommodate hardware clocking up to 10 MHz. For control applications, the number of analog outputs has been doubled to four. NI-PGIA 2 technology maintains a high sample rate and accuracy across 32 analog input channels, available on half of the M Series devices.

More value

The new M Series devices not only lower the cost per I/O channel by more than 30 percent, but they also reduce overall system costs by minimizing setup time through advanced development tools included in NI-DAQmx measurement services driver software. These 12 devices address low-cost, high-performance, and high-accuracy applications.

Visit ni.com/dataacquisition for complete pricing and specifications.

FEATURES:

- Series of 12 next-generation M Series PXI DAQ modules
- Analog input up to 1.25 MSps, 18-bit, 32-channels
- Analog output up to 2.8 MSps, 16-bit, 4-channels
- Hardware timed digital I/O, up to 32 lines,10 MHz
- Two 32-bit, 80-MHz counter/timers, encoder enabled
- NI-DAQmx measurement services with configuration utility for easy setup
- NI-DAQmx driver for LabVIEW, LabWindows/CVI, and Visual Studio .NET
- More than 2,000 available example programs
- Speed development with automatic code generation
- NI-MCal calibration technology for 5x measurement accuracy improvement
- Synchronize multiple devices with the PXI trigger bus and reference clock
- Visit ni.com/dataacquisition for pricing and complete specifications

For more information, contact sales@ni.com.

RSC #157 @www.compactpci-systems.com/catalogrsc

Adax
614 Bancroft Way
Berkeley, CA 94710
Tel: 510-548-7047 • Fax: 510-548-5526

Adax Signaling Products

www.adax.com

For over 20 years, Adax has provided superior signaling solutions to premier telecom companies across the globe. Adax signaling specialists understand their market and their customers, resulting in a company that is both successful and profitable. In recent years, Adax has invested heavily in research and development, and will continue this focus to ensure that Adax will always have the products that customers need.

Adax products are designed to meet the demanding signaling requirements of today's complex telecommunications environment, particularly the convergence of SS7, ATM, IP, wireline, and wireless networks with SIGTRAN and SIP. High performance, which has always been a key Adax benefit, is taken to new heights for IP with the addition of hardware acceleration for SCTP checksum and IPsec. Adax products and solutions are entirely future proof due to the commonality of the API between Adax software products and customer applications. SS7-only solutions can be quickly and easily IP enabled, narrowband SS7 or SS7/IP solutions can be easily migrated to a broadband with minimal changes to the higher layers, and Adax knows how to interwork it all. All of these features protect the customer's signaling infrastructure investment and deliver high-performance solutions for SS7, ATM, IP, and interworking in fixed and mobile networks.

Adax customers benefit from the unparalleled flexibility of a product set that delivers a range of diverse and extensive signaling options, with complete scalability to accommodate the smallest to largest requirement. With Adax Signaling Solutions for Today's Converging Networks, customers can deploy their signaling application, node, or system quickly and efficiently, irrespective of the underlying network interface or architecture.

FEATURES:

- Building blocks for system developers; signaling communications controllers and lower layer protocol software
- Integrated software and blades for application developers; integrated signaling protocol stacks
- Complete signaling gateways for everyone; multipurpose signaling gateways
- Signaling nodes – SS7 or IP based STPs, HLR, VLR, SMSCs, databases, and more
- Signaling gateways and IP signaling points for SS7 and IP switching, routing, back-haul, and tunneling
- Media gateways, media gateway controllers, and softswitches
- GPRS and 3G nodes including SGSNs, GGSNs, MSCs, RNCs, and Node Bs
- Simulation, monitoring, and billing systems for test and measurement applications
- Narrowband signaling for PSTN, GSM, and GPRS networks – SS7 (64k and 2Mbs HSL), Frame Relay, LAPB/D/V5, and X.25
- Broadband signaling for 3G networks – ATM AAL2 and AAL5, SSCOP/SSCF, SSSAR/SSTED, IP over ATM, and Frame Relay
- SIGTRAN signaling for fixed and mobile networks – SCTP, M2PA, M2UA, M3UA, and SUA with SIP interworking
- SS7/IP interworking providing the ability to interconnect all three via T1/E1, OC3/STM-1, and Gigabit Ethernet

For more information, contact sales@adax.com.

RSC #158 @www.compactpci-systems.com/catalogrsc

DSS Networks, Inc.

23 Spectrum Pointe, Suite 202
Lake Forest, CA 92630
Tel: 949-716-9051 • Fax: 949-716-9052

GigPCI-E Model 6468

www.dssnetworks.com

The model 6468 is an eight-port GbE switch with an integrated four-port host PCI-Express interface and four ports external via RJ-45's. It features an innovative "hybrid" switch/interface design with extreme performance and functionality. It provides add-on Gigabit Ethernet switch capabilities for standard or rack mount PC server-based systems. It has an integrated eight-port, wire-speed Broadcom hardware switch as the switching function, a four-port PCI-E GbE MAC host interface, an onboard control FPGA, and transceivers for the interconnect. A switch management interface is controlled via the host processor. Optionally, a microcontroller can be added to the FPGA for local onboard management. Host bus throughput to 980MB (7.84Gb).

For more information, contact sales@dssnetworks.com.

RSC #15901 @www.compactpci-systems.com/catalogrsc

FEATURES:

- "x8" PCI-Express bus interface provides extreme host performance to 980MB/sec (7.84Gb). x8/x16 slot compatible
- Onboard Broadcom BCM5388 hardware L2 switch provides wire speed on all ports (16Gb aggregate)
- Four ports routed to onboard RJ-45 connectors, four ports routed to host via PCI-Express bus
- FPGA for management, control, and routing functions can be managed onboard or via host; optional micro-controller
- 802.1Q VLANs, link aggregation, port mirroring, protected ports, trunking, fail-over, jumbo frames, 802.1p QOS
- Each port has two multifunction LEDs for Link/TX/RX, or other status indicators; standard height card

Network/communication interfaces
CompactPCI® and AdvancedTCA® Systems Resource Guide

SBS Technologies

2400 Louisiana Blvd., NE
Albuquerque, NM 87110
Tel: 505-875-0600 • Fax: 505-875-0400

PMC-GBIT-DT2CC

www.sbs.com

PMC-GBIT-DT2CC is a conduction cooled, conformal coated PCI Mezzanine Card (PMC) with dual 1000Base-T Gigabit Ethernet interface controller ports.

This COTS Gigabit Ethernet interface card has rear panel access and can be screened to support a wider operating temperature range. The Ethernet network interface complies with the IEEE 802.3 specifications for 10Base-T, 100Base-Tx, and 1000Base-T over Category 5 twisted-pair cable. Full duplex and half duplex modes are supported for 10Base-T and 100Base-Tx. 1000Base-T supports full duplex mode only.

The PMC-GBIT-DT2CC is compliant with standard single-wide PMC IEEE P1386.1, PCI 2.2, and PCI-X 1.0 specifications.

For more information, contact info@sbs.com.

RSC #15902 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Single-wide 32/64-bit 33/66 MHz PCI, 66/133 MHz PCI-X PMC
- Dual 10Base-T/100Base-Tx/1000Base-T network interface card with rear panel access
- Drivers for VxWorks®, Linux®, Windows NT®, and Windows 2000 available
- Conduction cooling, conformal coating; extended operating temperature range: –40°C to + 85°C
- Rear panel access provided by the PIM-GBIT-DT module; module has two RJ-45 connectors and LED indicators
- Transmit and receive FIFOs

Wolf Industrial Systems Inc.
5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

ETX Baseboards

www.wolf.ca

Custom-designed ETX Baseboard solutions are engineered by Wolf in partnership with your engineering team and manufactured to your exacting standards. Outsourced design and rapid prototyping from Wolf offer solid advantages for busy engineering groups.

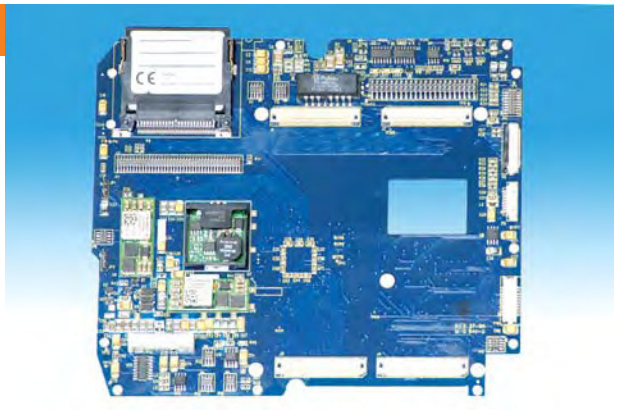
Complete Design Proposal with quote and 3D rendering to your specs, FREE, in 72 hours. A working prototype in your hands in as little as six weeks.

VME, CompactPCI, AdvancedTCA, EBX, PCI, AGP, DIMM-PC, PCI-Express, ETX-Express, PMC, and ETX custom design proposals on request.

Visit www.wolf.ca/ETX

For more information, contact engineering@wolf.ca.

RSC #16001 @www.compactpci-systems.com/catalogrsc



FEATURES:

- Free engineering design proposal
- Free 3D full-color rendering
- Prototype in as little as six weeks
- Any combination of I/O
- Any mechanical form factor

ADLINK Technology Inc.
8900 Research Drive
Irvine, CA 92618
Tel: 866-4-ADLINK • Fax: 949-727-2099

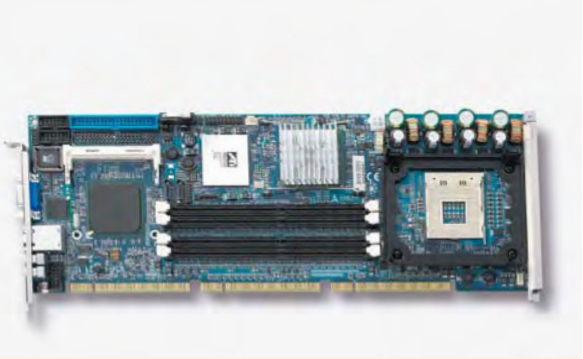
NuPRO-850: Full-size Prescott ePCI-X SBC

www.adlinktech.com

ADLINK Technology's NuPRO-850 is based on the PICMG 1.2 form factor and features an Intel® Pentium® 4 processor with HT technology, Intel® 875P chipset and Intel® 6300ESB I/O Controller Hub to provide an exceptional package of I/O functions plus performance capabilities unprecedented in embedded computing.

The E6300ESB I/O Controller Hub supports several I/O features including up to 2 GB of DDR333/400 memory with ECC, dual channel Serial ATA/150 ports, and a 64-bit/66 MHz PCI-X bus. Additionally, the NuPRO-850 product features include support for both 533 MHz and 800 MHz system bus support, GigE ports, dual USB 2.0 ports, and 64 MB of onboard video memory ideal for DVR applications.

The NuPRO-850 is equipped with a MiniPCI socket for system configuration flexibility and to extend upgrading options. It combines the outstanding capabilities of the Pentium® 4 processor, the latest 875P chipset, and a feature-rich E6300ESB ICH to produce a single-board computing platform to support the most demanding embedded computing applications.



FEATURES:

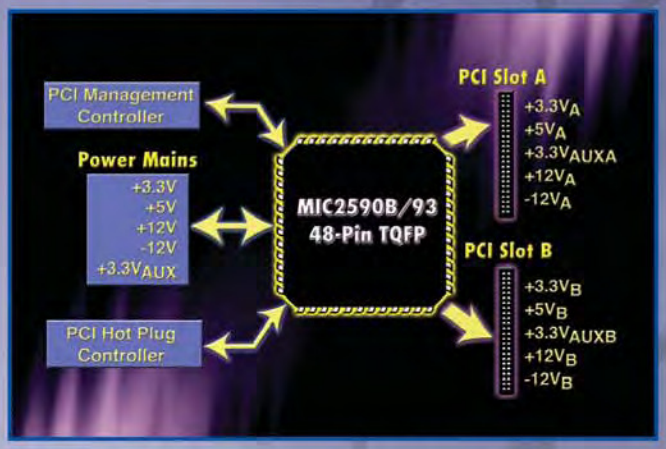
- Socket 478 Pentium® 4 processor, up to 3.4 GHz
- Longevity Intel® 875P chipset, 800/533 MHz FSB
- Four dual/single-channel DIMM, maximum 4 GB DDR RAM, ECC or non-ECC support
- AGP 8x high-performance graphics
- VGA, GbE, USB 2.0, IDE, S-ATA, COM, keyboard, and mouse
- ePCI-X bus, miniPCI expansion slot

For more information, contact info@adlinktech.com.

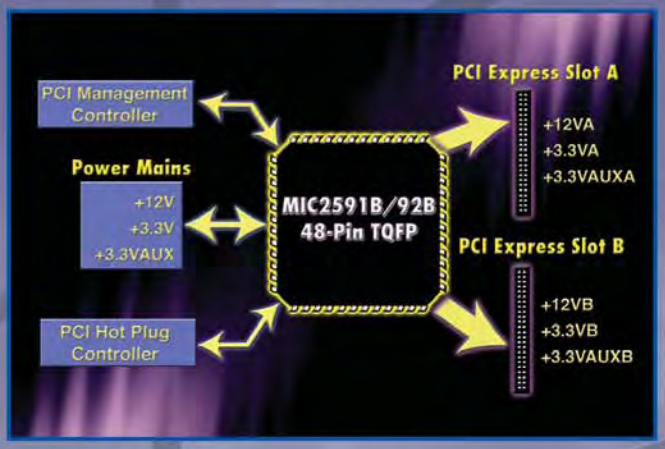
RSC #161 @www.compactpci-systems.com/catalogrsc

INTRODUCING THE INDUSTRY'S BEST-IN-CLASS DUAL-SLOT POWER CONTROLLERS

For PCI v2.x, PIC-X 1.0b/2.0 and PCI Express Applications



PCI v2.x and PCI-X 1.0b/2.0
MIC2590B/MIC2593



PCI Express
MIC2591B/MIC2592B

Micrel MIC259x family of multi-rail, dual-slot hot-swap controllers lowers overall system cost for implementing power controllers in PC board space conscious applications such as mid- and high-end enterprise server platforms. Micrel offers system design engineers one of four solution-optimized products that address dual-slot PCI v2.x, PCI-X 1.0b/2.0, or PCI Express power control requirements. For sophisticated power control and fault monitoring/reporting, all products incorporate an SMBus interface where the MIC2590B and the MIC2591B incorporate additional circuitry to support the Integrated Platform Management Interface (pursuant to IPMI v1.0).

For more information, please contact your local Micrel sales representative or visit us at:
http://www.micrel.com/ad/mic259X.

The Good Stuff:

- Compliant with PCI v2.x, PCI-X 1.0b, PCI-X 2.0 or PCI Express v1.0 power control requirements
- Support for two completely independent slots
- Programmable inrush current limiting with programmable timeout
- Dual-level, dual-speed overcurrent detection circuitry
- Slot power control with "Power-is-Good" and fault status reporting via:
  - An SMBus interface and/or
  - Dedicated hardware input/output lines
- Integrated gate driver circuits, current sense, & power MOSFETs
  - MIC2590B/93: +12V, -12V, and +3.3VAUX
  - MIC2591B/92B: +3.3VAUX
- Integrated high-side gate driver circuits for external MOSFETs
  - MIC2590B/93: +5V and +3V
  - MIC2591B/92B: +12V and +3V
- MIC2590B and MIC2591B Support IPMI v1.0
  - Integral analog multiplexer and 8-bit delta-sigma (Δ-Σ) ADC

MICREL®
Power, Connect and Protect
www.micrel.com

Literature: 1 (800) 401-9572
Factory: 1 (408) 944-0800
Stocking Distributors: Arrow 1 (800) 777-2776
Future 1 (800) 388-8731
Newark 1 (800) 463-9275
Nu Horizons 1 (888) 747-6846

RSC# 162 @www.compactpci-systems.com/rsc

Kontron
6260 Sequence Drive
San Diego, CA 92121
Tel: 888-294-4554 • Fax: 858-677-0898

AM4001 AMC module with Intel® Pentium® M

www.kontron.com/atca

Versatility of AMC technology
The AM4001 is a highly integrated AMC processor module dedicated to support a wide range of high-throughput I/O telecom applications. Field replaceable and highly scalable, the AM4001 incorporates a high-performance Intel® Pentium® M processor and appropriate chipset, as well as flexible Gigabit Ethernet and PCI-Express fabric interfaces. This configuration provides TEMs with both superior processing power and increased design options for next-generation network applications.

Faster go-to-market strategy
Kontron simplifies the application design process by ensuring that each ATCA/AMC building block is fully interoperable and designed to be the right technology with the right architecture in mind to suit any development needs. This ensures the quickest application deployment with the lowest costs.

Best-of-breed carrier grade software
Pre-integrated and application-ready right out of the box, Kontron AMC/ATCA solutions also feature best-in-class carrier grade software such as MontaVista Linux Carrier Grade Edition (CGE), and hot-standby Solid CarrierGrade data manager from Solid Information Technology.

FEATURES:

- AMC processor module, single-width – half/full height
- Intel® Pentium® M, scalable up to 2.0 GHz
- Max 4 GB memory
- Flexible Gigabit and PCI-Express fabric interface
- Superb monitoring features
- PICMG AMC.0/.1/.2/.3 compliance
- IPMI v1.5 support

For more information, contact sales@us.kontron.com.

RSC #163 @www.compactpci-systems.com/catalogrsc

Embedded Planet

4760 Richmond Road, Suite 400
Warrensville Heights, OH 44128
Tel: 216-245-4180 • Fax: 216-292-0561

EP425M

www.embeddedplanet.com

The EP425M uses the Intel IXP425 to create a full featured PrPMC/standalone card ready for you to design, develop, and deploy advanced networked devices. The IXP425 integrates three network processing engines and an XScale core to create a highly scalable computing platform. The NPEs include the following interfaces: two MIIs, one UTOPIA 2, two UART, two high-speed Serial, and an eight-channel HDLC. The EP425M gives you access to all of these interfaces simplifying expansion and integration. Each 425M includes Planetcore firmware with multiple OS options available, allowing you to focus on your application. Like all Embedded Planet products, the EP425M can be custom configured to meet your requirements.

For more information, contact info@embeddedplanet.com.

RSC #16401 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Intel XScale IXP425 operating at up to 533MHz with up to 64MB of Flash, 256MB of SDRAM, and 512kB of NVRAM
- Operating modes: Standalone or PrPMC/PT4MC monarch and non-monarch
- Connectivity: Two 10/100Base-T Ethernet ports, two RS-232 ports, USB device, JTAG for debug
- Serial I2C devices: EEPROM, temperature sensor, and real-time clock
- Expansion: Standard PMC connectors, 32 bit 33/66MHz PCI bus, EPX425 bus for direct access to all IXP425 signals
- Support: PlanetCore firmware (bootloader, Flash programmer, and diagnostics), Linux and VxWorks BSPs

CompactPCI® and AdvancedTCA® Systems Resource Guide PrPMCs

Embedded Planet

4760 Richmond Road, Suite 400
Warrensville Heights, OH 44128
Tel: 216-245-4180 • Fax: 216-292-0561

EP85xxM

www.embeddedplanet.com

The EP85xxM uses the Freescale PowerQUICC III family to create a full featured PrPMC/standalone card ready for you to design, develop, and deploy advanced networked devices. The PowerQUICC III family integrates a communications processor module to simplify network integration and a PowerPC core for control/compute tasks. This setup creates a highly scalable platform with room for growth. The EP85xxM gives you access to all of these interfaces simplifying expansion and integration. Each 85xxM includes Planetcore firmware with multiple OS options available, allowing you to focus on your application. Like all Embedded Planet products, the EP85xxM can be custom configured to meet your requirements.

For more information, contact info@embeddedplanet.com.

RSC #16402 @www.compactpci-systems.com/catalogrsc

FEATURES:

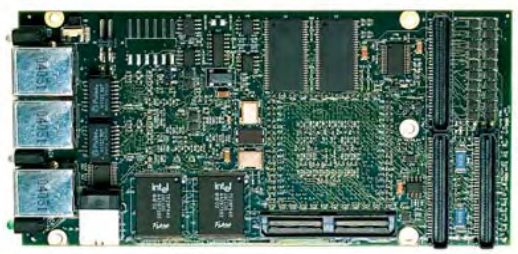
- Freescale 85xx processor operating at up to 1GHz with up to 256MB of Flash, 512MB DDR SDRAM, 512kB of NVRAM
- Operating modes: Standalone or PrPMC/PT4MC monarch and non-monarch
- Connectivity: Two 10/100/1000Base-T Ethernet ports, RS-232 monitor port, JTAG for debug
- Serial I2C devices: EEPROM, temperature sensor, and real-time clock
- Expansion: Standard PMC connectors, 133MHz PCI-X bus, EP S bus for direct access to 85xx signals
- Support: PlanetCore firmware (bootloader, Flash programmer, and diagnostics), Linux and VxWorks BSPs

Embedded Planet

4760 Richmond Road, Suite 400
Warrensville Heights, OH 44128
Tel: 216-291-4180 • Fax: 216-292-0561

EP834xM (Q2 '05)

www.embeddedplanet.com



The EP834xM uses the Freescale PowerQUICC II Pro family to create a full featured PrPMC/standalone card ready for you to design, develop, and deploy advanced networked devices. The 834x family uses Freescale's SoC architecture to integrate a PowerPC core with advanced features such as DDR, Dual GigE, and USB 2.0. This setup creates a highly scalable platform with room for growth. The EP834xM gives you access to all of these interfaces simplifying expansion and integration. Each 834xM includes Planetcore firmware with multiple OS options available, allowing you to focus on your application. Like all Embedded Planet products, the EP834xM can be custom configured to meet your requirements.

For more information, contact info@embeddedplanet.com.

RSC #16501 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Freescale 834x processor operating at up to 667MHz with up to 256MB of Flash, 512MB DDR SDRAM, 512kB of NVRAM
- Operating modes: Standalone or PrPMC/PT1MC monarch and non-monarch
- Connectivity: Two 10/100/1000Base-T Ethernet ports, two RS-232 ports, USB Host/Device/On-the-Go, JTAG for debug
- Serial I2C devices: EEPROM, temperature sensor, and real-time clock
- Expansion: Standard PMC connectors, 66MHz PCI 2.2 bus, EP S bus for direct access to 834x signals
- Support: PlanetCore firmware (bootloader, Flash programmer, and diagnostics), Linux and VxWorks BSPs

Parsec (Pty) Ltd.

16 Pieter Street
Centurion, 0157 ZA
Tel: +27-12-678-9740 • Fax: +27-12-678-9741

PM430: Dual FPGA PMC

www.parsec.co.za

The PM430 is a dual PMC module that uses Altera® Stratix FPGAs and ZBT® memories to provide a high-speed processing platform targeted at DSP and other computational intensive applications, such as radar, image processing, WiMAX, and SDR.

Two processing FPGAs are available to the user for firmware development. Five ZBT memories connect to each FPGA, yielding 2.66 GB/s of memory bandwidth per FPGA.

An Interface FPGA implements two PCI-to-local-bus bridges. The local bus consists of 64-bit target and DMA buses, supporting maximum PCI bandwidth to and from the processing FPGAs.

The PM430 is shipped with reference design firmware and example software that provide a starting point for development.

For more information, contact info@parsec.co.za.

RSC #16502 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Two Altera® Stratix EP1S25 processing FPGAs, upgradable to EP1S40 devices
- Two 32/64-bit 33/66MHz PCI-to-local-bus bridges supporting target read/write and DMA transactions
- Separate target and DMA buses provide simultaneous data transfer in both directions
- Single PMC version with one processing FPGA also available, such as PM431
- Processing FPGAs configure from Flash that is programmed via the PCI bus with a supplied utility
- Windows 2000/XP device driver, C and MATLAB® APIs and firmware reference designs

Parsec (Pty) Ltd.
16 Pieter Street
Centurion, 0157 ZA
Tel: +27-12-678-9740 • Fax: +27-12-678-9741

PM480: Dual ADC PMC

www.parsec.co.za

The PM480 is a dual channel 105MSPS 14-bit ADC PMC module. It samples two analog inputs on the front-panel SMB connectors and buffers the sampled data in ZBT® memory. The buffered data is available to the PCI interface via target read or DMA transactions, with data streaming being supported.

The PM480 provides external clock and trigger inputs on the front panel. The sampling clock is selectable from either the external source or an onboard oscillator. An internal or external trigger initiates the sampling process. The PM480 is configured via the PCI bus.

The Altera® Stratix-based design makes it possible to add digital down-conversion or other post-sampling functionality to the PM480.

For more information, contact info@parsec.co.za.

RSC #16601 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Two Analog Devices AD6645 105MSPS 14-bit ADCs
- SNR of 70dB @ 15MHz and SFDR of 85dBc @ 70MHz
- 50 Ohm AC coupled 100kHz – 250MHz analog inputs
- 32/64-bit 33/66MHz 3.3V PCI interface implemented in Altera® Stratix FPGA
- ZBT® data buffer of 128K samples per channel
- Ideal for wideband receivers, multichannel digital receivers, radar, and Software Defined Radio

CompactPCI® and AdvancedTCA® Systems Resource Guide PMCs

Parsec (Pty) Ltd.
16 Pieter Street
Centurion, 0157 ZA
Tel: +27-12-678-9740 • Fax: +27-12-678-9741

PM488: Dual DAC PMC

www.parsec.co.za

The PM488 is a dual channel 150MSPS 14-bit DAC PMC module. It generates two analog output signals on the front panel SMB connectors from data buffers containing data received via the PCI interface. The internal data buffers perform PCI to DAC clock conversion and support data streaming.

The PM488 provides external clock and trigger inputs on the front panel. The DAC clock is selectable from either an external source or an onboard oscillator. An internal or external trigger initiates the waveform generation process. The PM488 is configured via the PCI bus.

The Altera® Stratix-based design makes it possible to add digital up-conversion or other pre-generation functionality to the PM488.

For more information, contact info@parsec.co.za.

RSC #16602 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Two Analog Devices AD9772A 150MSPS 14-bit DAC converters
- SNR of 70dB @ 25MHz and SFDR of 80dB @ 5MHz
- 50 Ohm AC coupled analog outputs with 67.5MHz reconstruction pass band
- 32/64-bit 33/66MHz 3.3V PCI interface implemented in Altera® Stratix FPGA
- Internal data buffers of 16K samples per channel
- Ideal for baseband or IF waveform reconstruction, W-CDMA, radar, and Software Defined Radio

SANBlaze Technology, Inc.

2 Clock Tower Place, Suite 550
Maynard, MA 01754
Tel: 978-897-1888 • Fax: 978-897-3171

PMC320 SCSI Adapter

www.sanblaze.com

The SANBlaze SB-PMC320 Ultra320 SCSI PMC adapter provides industry-leading SCSI device connectivity for embedded systems designs. The SB-PMC320 has two independent Ultra320 SCSI channels, each allowing up to 320 MB/sec transfer rates. Each channel supports up to 15 SCSI devices.

The SB-PMC320 also provides Raid 0 (striping) and Raid 1 (mirroring) functionality on either channel.

The SB-PMC320 SCSI PMC adapters are available in three configurations: a dual channel version with either two front-panel ports via 68-pin VHDCI connectors or one front panel and one rear I/O port via J/P 4, and a single-channel version with one front port via VHDCI connector.

All major operating systems are supported.

For more information, contact info@sanblaze.com.

RSC #16701 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Single or dual Ultra320 SCSI channels with front and rear panel I/O options
- Provides Raid 0 (striping) and Raid 1 (mirroring) functionality on either channel
- 133 MHz, 64-bit PCI-X interface
- Support for 32/64-bit and 33/66 MHz PCI bus
- Connects up to 30 devices
- PMC Ultra 160 SCSI adapter also available for slower and non-Raid applications

PMCs
CompactPCI® and AdvancedTCA® Systems Resource Guide

Carlo Gavazzi Computing Solutions

10 Mupac Drive
Brockton, MA 02301
Tel: 508-588-6110 • Fax: 508-588-0498

PMC-SB StarFabric PMC

www.gavazzi-computing.com

The PMC-SB offers a flexible switch fabric interface to real-time networks that scale from a few to hundreds of nodes. The flexibility and scalability of the PMC-SB is ideal for many signal-processing applications that require the use of multiple processors to achieve real-time response and throughput.

The PMC-SB is PICMG 2.17-compliant and mounts on a CompactPCI or VME64 PMC carrier to provide a StarFabric interface. The PMC-SB converts a conventional parallel 32- or 64-bit PCI bus operating at up to 66 MHz to dual high-speed serial links compliant with the StarFabric protocol. The two links may be used separately for redundant fabric applications or may be aggregated for higher speed operation.

For more information, contact gavazzi@mupac.com.

RSC #16702 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Uses standard shielded CAT5 cables with RJ-45 connectors up to 10 meters distance for room-scale topologies
- Compatible with 32-bit/33 MHz and 64-bit/66 MHz bus speeds
- Provides two 2.5 Gbps, full duplex StarFabric serial links, or 5.0 Gbps bundled links
- Compatible with MS Windows®, Linux®, and Solaris® (SPARC and x86)
- Mounts on a CompactPCI or VME64 PMC carrier to provide a StarFabric interface
- Supports all legacy traffic for full compatibility with existing PCI software and hardware

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4289 www.technobox.com

The enhanced 32-channel reconfigurable RS-422/485 Digital I/O PMC provides a vehicle for implementing complex digital designs requiring a differential interface. As a second-generation, FPGA-based design, the 4289 includes 64b/66 MHz PCI bus support, up to 66 MHz local bus clock, 256K x 32b SRAM, and up to 20K logic elements. The standard configuration is 12K LEs. Other sizes are build options. All 32 general-purpose RS-422/485 digital I/Os are wired to both the front panel and rear PN4 connector. FPGA configuration cells are automatically loaded from a serial EPROM during power up. Dynamic reprogramming of the FPGA can be performed by the host processor or by in-circuit burning of the FLASH device.

For more information, contact info@technobox.com.

RSC #16801 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Provides 32 channels of general-purpose RS-232/422 digital I/O
- 12K LEs (standard configuration)
- Reprogrammable by host or onboard Flash (EP1CS4)
- Variable SRAM architectures allowed
- Headers for JTAG connection and Flash programming
- Sample FPGA implementation and host "C" code

CompactPCI® and AdvancedTCA® Systems Resource Guide PMCs

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4366 www.technobox.com

The 4366 is a passive adapter that allows use of a 32- or 64-bit/33 MHz PMC in a PCI slot. To optimize performance, the board features four impedance controlled signal layers and power planes, and paths between the PCI and PMC connectors are carefully routed. For a solid mechanical connection, the adapter features a machined aluminum front panel. The 64 rear I/O signals from the PMC are directed to a 96-pin DIN connector situated on the rear of the adapter. Several LEDs show the status of power and key PCI bus signals (e.g., INTx, BUSMODE, and REQ32). External power (+12 and +5 volts) can be supplied to the adapter. An optional fan assembly (P/N 3675) can be installed to augment cooling.

For more information, contact info@technobox.com.

RSC #16802 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Adapts 32- or 64-bit PMC (33 MHz) for use in PCI slot
- Designed for optimal signal quality
- Support for rear I/O
- LEDs convey status of key PCI bus signals and power
- Accommodates external power
- Optional fan assembly for additional cooling of PMC

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4352 www.technobox.com

This adapter features an Intel 31154 PCI-X to PCI-X bridge that permits delivery of PMC-derived applications in a standard PCI or PCI-X environment. Both PMC and PMC-X boards of any signaling level, clock frequency, and bus width are supported. The bridge assures signal integrity even with multiple adapters plugged into a single PCI bus segment. PCI and PCI-X rates are supported on both the primary and secondary PCI busses. 32-bit and 64-bit transactions are supported. LEDs indicate status of power and key PCI bus signals. A 4-pin power connector permits application of external power (+5 and +12 volts). An optional fan assembly (P/N 3675) is available.

For more information, contact info@technobox.com.

RSC #16901 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Adapts PMC or PMC-X modules to PCI or PCI-X
- Intel 31154 Bridge
- Supports PCI (33/66 MHz) and PCI-X (66/100/133 MHz)
- Rear I/O support
- LEDs for key PCI bus signals and power
- Accommodates external power

PMCs
CompactPCI® and AdvancedTCA® Systems Resource Guide

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4311 www.technobox.com

This metering PMC-X to PCI-X adapter is a development tool that can be used for debugging and/or demonstrating the performance of a PMC card in a standard PCI slot. The adapter supports both standard PCI signaling and PCI-X (32/64bit). A PMC I/O Card (VITA 36) can be attached to the card. The PIM signals are connected to the PMC site JN4 connector in a one-to-one signal fashion as customarily done for PIM applications. Both the PMC and PIM under test are vertically oriented, exposing the bulk of the component areas for access. The adapter features an LED metering function that separately measures power supply voltages and card current draw. A built-in counter measures clock frequency.

For more information, contact info@technobox.com.

RSC #16902 @www.compactpci-systems.com/catalogrsc

FEATURES:

- PMC-X to PCI-X adapter with bus metering functions
- Multiple metering functions with LED readout
- Supports PCI (33/66 MHz) and PCI-X (66/100/133 MHz)
- Accommodates both PMCs and PIMs
- Optimized design to preserve signal quality
- XCAP and M66EN signals support

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4044/4068

www.technobox.com

The 4044 passive adapter permits standard 32- or 64-bit PCI-X card operation in a PMC-X slot. One PCI-X edge finger connector supports keying for 32-bit 5V signaling PCI cards. A second supports 32-bit or 64-bit 3.3V signaling PCI-X cards. A universal PCI-X card can be used in either position. Six 20-pin connectors (HP 01650-63203 termination) provide an interface for a logic analyzer. Onboard logic decodes PCI-X bus cycles, with associated LEDs indicating status. Additional LEDs monitor power supplies and key signals. Test points allow supply voltage measurements. Pulse stretchers allow visible detection of short-lived events. Optional PLL clock buffer (P/N 4051) can allow skewing of the PCI clock's front edge (±4 ns in 1 ns steps). A 4044 build option (P/N 4068) includes a 10W, 5V to 3.3V DC-to-DC converter.

For more information, contact info@technobox.com.

RSC #17001 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Adapts 32- or 64-bit PCI cards to a PMC site
- Supports 33/66 PCI-X clock frequencies
- Logic analyzer headers (compatible with HP 1650-63203 termination adapters)
- LEDs convey PCI bus operation (PCI bus command code decoded for individual LEDs)
- Supports bandwidth measurement; LEDs display power, bus signals, and bus cycles

CompactPCI® and AdvancedTCA® Systems Resource Guide PMCs

Technobox, Inc.
PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4170

www.technobox.com

This PMC board, which is built around the Silicon Image 680, is designed to accept 2.5-inch ATA/IDE mass storage media, either rotating hard disk drive or a solid state Flash disk, using industry standard mounting. Media is normally installed by the end user.

For more information, contact info@technobox.com.

RSC #17002 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Silicon Image 680 controller
- Accepts 2.5-inch ATA/IDE HD or solid-state disk
- Standard mounting
- Link activity LED
- Media optional

Technobox, Inc.

PMB 300, 4201 Church Road
Mount Laurel, NJ 08054
Tel: 609-267-8988 • Fax: 609-261-1011

4382/4383

www.technobox.com

This PCI-X capable board provides four 1.5 Gbits/sec links to support as many as four cable-attached SATA devices. Although designed for PCI-X, the 4382 also will function with lower speed 33/66 MHz busses and in 32/64-bit modes. Supports 3.3V and 5V bus signaling. Four SATA ports are front-panel accessible. Each port has a retention mechanism. Status LEDs show link activity. BIOS is stored in EEPROM, accessible via a Serial Peripheral Interface (SPI) bus. Attached to the SPI bus is an Altera PLD with a system monitor that can sense and report power levels. Additionally, the monitor can determine local temperature from a user-supplied 2N3904 junction diode. Two analog inputs (0-2.5 volts) that appear on the PN4 connector can be read by the monitor.

For more information, contact info@technobox.com.

RSC #17101 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Supports 4 SATA devices (1.5 Gbits/sec per link)
- Intel 31244 controller
- PCI-X capable (33/66 MHz, 32/64-bit modes; 3.3V and 5V bus signaling)
- Status LEDs show link activity
- Onboard BIOS (EEPROM)
- Resident Altera PLD provides: I2C controller, level translators for 40-bit digital I/O, four RS-232 UARTS, system monitor for power level, local temperature monitor, analog inputs (0-2.5 volts) on PN4

PMCs
CompactPCI® and AdvancedTCA® Systems Resource Guide

The Evergreen Group Inc.

4460 Bachman Drive
Schnecksville, PA 18078
Tel: 610-871-1955 • Fax: 610-680-3305

VT-1425/26

www.evergreengrp.com

Available as either dual or single processor PMC modules, the VT-14xx series of DSP PMCs features TI's highest performance processors. Targeted at high end DSP-based applications, they are available with the TMS320C6415 or TMS320C6416 processors featuring clock rates as high as 720 MHz. Compatible with any carrier board with a PMC-compliant module site, each processor can be configured with up to 64 Mbytes of SDRAM and up to 2 Mbytes Flash. Models are available with either UTOPIA or TI's EMIF interface provided on the user I/O P14 connector. A full speed PCI bus supporting 64-bit, 66 MHz clocks with universal signaling levels is provided. Windows 2000 and Windows NT drivers are supplied, as is example C6400 source code and Command Line Interpreter (CLI) host side source code. A full host side software API is also included to reduce system integration efforts.

For more information, contact craig@evergreengrp.com.

RSC #17102 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Dual or single TI C6415/16 processors
- UTOPIA or EMIF I/O options
- Desktop PCI carrier cards available
- Win/NT/Linux drivers available
- Up to 720 MHz available now
- Fast code uploads via PCI with included CLI utility

Wolf Industrial Systems Inc.

5 Foxfire Chase
Uxbridge, ON L9P 1R4 Canada
Tel: 800-931-4114 • Fax: 905-852-1735

PMC-9000 Video Card

www.wolf.ca

Extreme performance PMC graphics module, powered by the feature-rich ATI® MOBILITY™ RADEON™ 9000. ATI's graphic controllers integrate elements that provide outstanding performance with broad driver support.

Wolf engineers gave the PMC-9000 enhanced functionality specifically for embedded, industrial, aerospace, and military applications.

Have it your way!
Wolf can custom-design any product to make it suit your application perfectly. VME, CompactPCI, AdvancedTCA, EBX, PCI, AGP, DIMM-PC, PCI-Express, ETX-Express, PMC, and ETX custom-design proposals can be supplied on request.

Visit www.wolf.ca/pmc9000

For more information, contact engineering@wolf.ca.

RSC #17201 @www.compactpci-systems.com/catalogrsc

FEATURES:

- Multiple I/O options: dual or triple display, DVI, SVGA, LVDS, TMDS, SVideo, composite, and more
- Integrated LVDS and TMDS transmitter enables support of digital flat-panel displays
- Dual DAC converters for cost-effective, independent multi-monitor support at maximum resolutions
- Supports Microsoft™ Windows 9x/Me/NT/2K/XP and Linux
- Supports resolutions up to 2048 × 1536
- DirectX® 8.1 and OpenGL® 1.3 support

CompactPCI® and AdvancedTCA® Systems Resource Guide PMCs

SANBlaze Technology, Inc.

2 Clock Tower Place, Suite 550
Maynard, MA 01754
Tel: 978-897-1888 • Fax: 978-897-3171

PMC Fibre Channel HBA

www.sanblaze.com

The SANBlaze SB PMC-FC Dual Channel, 2 Gbit Fibre-Channel PMC adapter provides maximum performance and low latency Fibre Channel device connectivity to embedded systems based on VME or CompactPCI. The SB PMC-FC has two independent 2 Gbit Fibre Channel ports.

The SB-PMC-FC family consists of front I/O capability with copper and optical Fibre Channel options and rear I/O capability. Dual and single port configurations are available.

The SB PMC-FC can auto-negotiate down to 1 Gbit operation to assure backward compatibility with existing 1 Gbit SAN infrastructures and meets the requirements of today's 2 Gbit SANs.

Support is available for all major operating systems.

For more information, contact info@sanblaze.com.

RSC #17202 @www.compactpci-systems.com/catalogrsc

FEATURES:

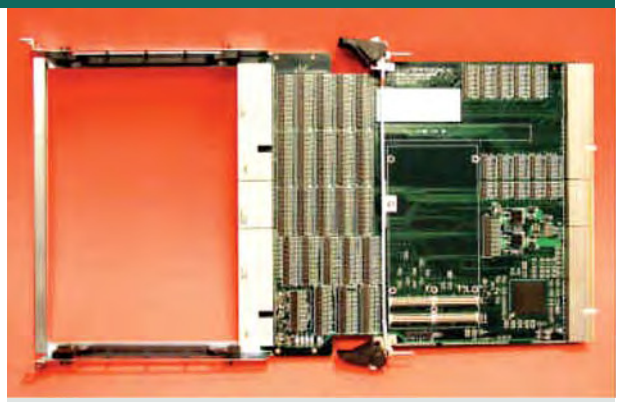
- Two independent, 2 Gbit Fibre Channel ports
- SFP based, supports multi-mode optics and copper options
- Auto-negotiation for legacy connect (1 or 2 Gbit)
- Front and rear panel I/O options; Pim Module available
- Software supports switch and loop (private and public) topologies
- 64-bit, 33/66 MHz PMC

Zephyr Engineering
1620 West Fountainhead Parkway, Suite 320
Tempe, AZ 85282
Tel: 480-736-8714 • Fax: 480-736-8322

Zephyr Engineering Inc.

ZPCI.2466 6U Active Extender

www.zpci.com



The ZPCI.2466 Active Extender board from Zephyr Engineering, Inc., is the last word in CompactPCI extender design. It not only gets your board out in the clear for easy access, it also provides an onboard PMC slot for a PCI bus analyzer or PMC board debug.

The ZPCI.2466 is a 66 MHz version of the versatile ZPCI.2400, with all of the same valuable features you have come to rely on. The ZPCI.2466 uses a transparent PCI-to-PCI Bridge to extend CompactPCI bus signals without violating stub length restrictions, providing easy access to bus signal test points, user I/O test points, and both sides of your board under test. Plug in a PMC bus analyzer card and you have full access to your test board's CompactPCI bus. If you are developing a PMC card, you can use the slot for it instead and have access to all of your PMC card's signals. Clearly marked test points show all CompactPCI bus signal names. User I/O test points are marked with connector and pin numbers. Every CompactPCI and user I/O pin can be opened by removal of a 0-ohm resistor. Restoring the connection is easy; just plug on a 2mm shunt! Each header has an adjacent pin for logic analyzer ground.

The ZPCI.2466's mechanical bracketry provides your test board with a one-slot virtual card cage; use your injectors just like normal. The ZPCI.2466 locks into the card cage with its own injectors. Foldback current limiting on the test board's +3.3V, +5V, +12V, and –12V supply rails prevents damage in case of short circuits.

FEATURES:

- Onboard bridge maintains CompactPCI signal integrity
- Onboard PMC slot for PCI logic analyzer/exerciser
- All CompactPCI and user I/O signals are individually insolatable
- Supports PMC user I/O on J3-J5
- Ideal for both CompactPCI and PMC board testing
- Test points for all CompactPCI signals
- Test points for all user I/O pins
- Power test points simplify current measurements
- Individual indicator LEDs show board power status at a glance
- Rigid frame mates and locks with injectors on test board
- 32-bit and 64-bit configurations available at 66 MHz
- Short circuit protection for +3.3V, +5V, +12V, and –12V supplies

For more information, contact info@zpci.com.

RSC #173 @www.compactpci-systems.com/catalogrsc

NEW PRODUCTS

www.compactpci-systems.com/products

BACKPLANE

ELMA Bustronic

Website: www.elmabustronic.com
Model: 32-bit cPCI Backplanes **RSC No:** 18373
CPCI backplanes conform to the PICMG basic specification 2.0 R2.1 and Hot Swap specification 2.1 R1.0 • Layers: 3 signal, 5 power ground • Full stripline design, with distributed decoupling capacitors • Standard design with two 2 oz. copper ground planes fully shield the backplane, minimize EMI/RFI emissions susceptibility, minimize crosstalk, and maximize power distribution

BACKPLANE: SWITCHED FABRIC

ELMA Bustronic

Website: www.elmabustronic.com
Model: 5-slot mesh ATCA **RSC No:** 18371
An AdvancedTCA, five-slot mesh backplane • Compliant to PICMG 3.0 specifications • Can use dual star, mesh, or replicated mesh configurations within the backplane • Two 3-pin headers for cabling to shelf management modules • Two headers offer optional redundant connections of the IPMB signals • Two 2mm HM connectors for direct plugging of the shelf management module into the backplane • Two optional RJ-45 connectors to support ICMB • Thermocouple headers for temperature sensors are interspersed throughout the backplane • Other components include a ring header, fan-tray headers, and dual sets of ±48V power bugs

CARD RACK/SUBRACK

Hybricon

Website: www.hybricon.com
Model: EMI Tight/Quick Access **RSC No:** 18434
Provides complete EMI/RFI containment • Provides quick access to the rear of the backplane • Rack-mount or optional mount configurations • Precision-tooled extrusions • Provisions for rear plug-in transition modules and cabled rear transition modules • Available with backplanes installed (VME64x or CompactPCI) • Custom hybrid versions are available • IEEE 1101.10/1101.11 compliant • Backward compatible to ANSI/IEEE 1101.1 • Full range of sizes from 3U x 160mm to 9U x 400mm with widths up to 21 slots • Patented CoolSlot air deflecting card guides optimize air flow

CHIPS & CORES: BRIDGING

Pericom

Website: www.pericom.com
Model: PI7C21P100 **RSC No:** 18167
A PCI-X-to-PCI-X bridge • Supports the full 64 bit/133 MHz specification for PCI-X • Backwards compatible with conventional PCI down to 32 bit/33 MHz • Pin-compatible superset to the Tundra TSI310, with the added features of dynamic prefetching control, configurable free space in the memory data FIFO, and 5V tolerance for legacy products • Asynchronous mode support • Supports six secondary bus masters • Supports up to eight active transactions in each direction • Extended commercial temperature range (0°C to +85°C)

CONNECTOR: BACKPLANE TO POWER SUPPLY

Positronic Industries

Website: www.connectpositronic.com
Model: Power Connection Sys. **RSC No:** 18432
Large surface area contact system • Sequential mating options • High reliability performance • Integral locking system • Board-board/board-cable/cable-cable • Automatic crimping equipment • Low contact resistance to 0.0007 ohms • Increased current carrying capability • Right angle press-fit terminations • Hot plug versions • Safety shrouded options • Screw terminations

CONNECTOR: OTHER

Positronic Industries

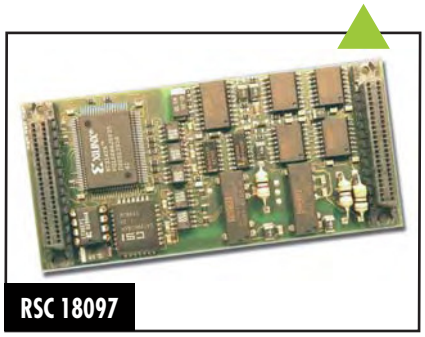
Website: www.connectpositronic.com
Model: PCD/PCDD Press-fit **RSC No:** 18433
Solid machined contacts for high reliability • Low press-in/push-out forces • Contacts are repairable if damaged • Bi-spring press-fit contacts can be reused up to 3 times • Omega press-fit contacts provide an economically priced option • Variety of accessories • Recognized by various safety agencies • Ability to meet application specific requirements

DATA ACQUISITION

Tews Technologies

Website: www.tews.com
Model: TIP500 **RSC No:** 18097
16 single-ended or 8 differential channels of isolated 12 bit A/D conversion • Interface according to IndustryPack specification • Identification-PROM supports auto-configuration • Single size IndustryPack • ESD protected input multiplexer • Programmable gain amplifier, gain 1, 2, 5, 10, or gain 1, 2, 4, 8 • 12 bit A/D converter with internal S/H and reference • Full-scale input range ±10V or 0-10V (gain = 1) • Interrupt capability at end-of-conversion • Factory calibrated, calibration information in Identification-PROM unique to each IP • Operating temperature –40°C to +85°C

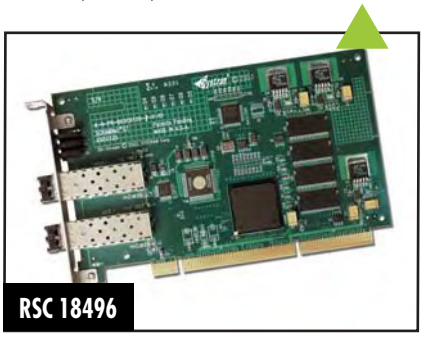
RSC 18167


RSC 18097

DATACOM: GENERAL

Curtiss-Wright Embedded

Website: www.cwcembedded.com
Model: SCRAMNet GT **RSC No:** 18496
A real-time control and data network product • Suitable data communications solution for simulation, virtual reality, and other real-time applications with critical performance requirements • Based on a replicated shared-memory concept • Optimized for high-speed, ultra low-latency transfer of data among many computing platforms that are all solving portions of the same real-time problem • Shared memory starting at 128 MB • 2.5 Gbps data transfers • Data throughput exceeding 200 MBps • Handles network control functions and network data streams simultaneously • Uses Small Form Factor Pluggable (SFP) transceivers • Available in PCI, PMC, CompactPCI, and VME form factors • Supports Linux, Windows, VxWorks, Solaris, and IRIX


RSC 18496

DATACOM: SERIAL CONTROLLER

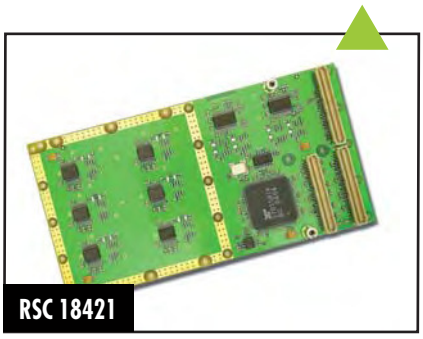
MEN Micro

Website: www.menmicro.com
Model: M75 **RSC No:** 18143
A serial communications controller in M-Module form factor • Two onboard channels can be configured as either full-duplex RS-422 or half-duplex RS-485 interfaces and are capable of up to 2 Mbps in synchronous or asynchronous modes • Supports the SDLC protocol • The two channels

are optically isolated from each other and from the system • Software compatibility with the 85C30 Serial Communications Controller (SCC) device • Four asynchronous FIFO memory queues with 2-KB depth in each direction, with support for simultaneous reading and writing

Tews Technologies

Website: www.tews.com
Model: TPMC371/372 **RSC No:** 18421
Two conduction-cooled, asynchronous serial PMC modules • Available with RS-232, RS-422, or mixed RS-232/422 channels • Four (TPMC372) or eight (TPMC371) total channels • Each channel has 64-byte transmit and recieve FIFOs with programmable trigger levels • Individually programmable baud rates up to 921.6 Kbps for RS-232 channels and up to 5.5296 Mbps for RS-422 channels • UART offers readable FIFO levels • Physical connectivity through P14 I/O • Software support for major operating systems including Windows, Linux, VxWorks, and QNX


RSC 18421

DSP RESOURCE BOARDS

Innovative Integration

Website: www.innovative-dsp.com
Model: M44/cM44 **RSC No:** 18484
A PCI bus-based I/O engine with a floating-point DSP and dual OMNIBUS module I/O expansion sites • TMS320C44 processor at 60 MHz with two 32-bit counter/timers, six DMA channels, 8 KB of dual-access SRAM, four bi-directional COMM ports, and a prioritized interrupt controller • PCI (M44) or CompactPCI (cM44) form factor • Two 20-MBps external COMM ports • Up to 2 MB of local SRAM and up to 2 MB of global SRAM

Innovative Integration

Website: www.innovative-dsp.com
Model: M6X/cM6x **RSC No:** 18480
A PCI (M6x) or CompactPCI (cM6x) DSP board • TMS320C6201 (fixed-point) DSP at 200 MHz or TMS320C6701 (floating-point) DSP at 160 MHz • PCI plug-and-play interface • Two (PCI) or three (CompactPCI) OMNIBUS I/O module sites • Mutli-board synchronization (ClkLink, SybcLink) • The DSPs on-chip peripherals include two 32-bit counter/timers, four DMA channels, 1 Mb of SRAM, an HPI parallel port interface, and a prioritized interrupt controller • 512 KB of ASRAM and 16 MB of 1 wait state SDRAM

ENCLOSURE + CARD RACK + POWER SUPPLY

Hybricon

Website: www.hybricon.com
Model: RME821C 8U Enclosures **RSC No:** 18376
19 Inch rack-mount enclosure, 8U high • 21-slot CompactPCI,VME64x,VME, and VXS backplanes available • IEEE 1101.10 / 11 compliant card cage • Pac-2000 modular design • Up to 1200 watts embedded power • Advanced cooling design • Patented CoolSlot air deflecting card guides optimize airflow • Front air inlet / Rear air outlet cooling • Thermal simulation of enclosure (thermal report available) • Basic cooling option delivers 210 LFM per slot, sufficient cooling for 40 watts per slot • High performance cooling option delivers 310 LFM per slot,sufficient cooling for 60 watts per slot • Designed to meet FCC/CE EMI (emissions and susceptibility standards) • Front panel LED voltage indicators • Supports 80mm rear transition boards or Raceway rear mezzanine • Includes handles, provisions for rack slides • Mounting for 2 internal hard drives behind rear I/O plate

Schroff

Website: www.schroff.us
Model: 23098163 **RSC No:** 18473
12U 14 Slot 19" or 12SU 16 Slot ETSI Configurations • Dual Star or Full Mesh Topologies • New slim profile dual Schroff integrated shelf manager/controllers (ACB III) – mounted next to ATCA card cage; based on Pigeon Point Shmm 300 • Redundant 48VDC Power Inputs via hot swappable PEMs with monitoring • Available in bussed or radial configurations • Provisions for up to two integrated Shelf manager/Controllers or two Stand Alone controllers for on blade management configurations • Telco Alarm board • Three hot swap fan tray configurations which support up to 200 watts per slot including RTM cooling • Removable air filter • Provisions for 14/16 8U 6HP 280mm ATCA boards in chassis with 14/16 8U 70mm RTM boards in rear • Heavy duty cable trays in front and rear • Cost effective integrated controller design to minimize all FRU (field replacement unit) costs • Finish: Powder coated black

Model: BPL000763 **RSC No:** 18474
Full Mesh backplane • Cooling for up to 200 W/board • Redundant power entry modules • For up to 2 shelf managers • Independent fan controller for dual 24 VDC fans • With rear I/O • Will operate with or without the shelf manager

FABRICS: FIBRE CHANNEL

GE Fanuc Automation

Website: www.gefanuc.com/embedded
Model: VMIPMC-5660 **RSC No:** 18501
A PMC 1-GB Fibre Channel adapter • Supports 100 MBps communications in all Fibre Channel topologies • 64 bit, 33/66 MHz PMC host bus interface • Compliant with PCI Local Bus Specification revision 2.1 • Compliant with ANSI SCSI standards for Class 3 service • Compliant with Fibre Channel Arbitrated Loop (FC-AL) Direct Disk Attach and Fibre Channel Public Loop (FC-PL) Fabric Loop Attach profiles • Supports Fibre Channel protocol SCSI (FCP-SCSI) • Supports SCSI initiator/target and target modes (drivers for SCSI initiator only) • Onboard, enhanced RISC processor • Onboard gigabit serial transceivers • Supports PCI dual-address and cache commands • No host intervention required to execute complete SCSI operations • Supports multi-ID aliasing • Fully backward compatible with 32 bit PCI • Optional copper or fiber-optic interface • Based on QLogic ISP 2100a series chip

I/O: ANALOG

Strategic Test

Website: www.strategic-test.com
Model: UC 4500 **RSC No:** 18112
4 channel 16 bit high-speed A/D card • CompactPCI 6U format • Fastest 16 bit A/D converter board • Models with 200 kSps, 500 kSps, or 1 MSps on 2 or 4 channels • Simultaneous sampling on all channels • 4 input ranges: ±1 V up to ± 10 V • Differential / single-ended selectable • Up to 256 MSample memory • FIFO mode • Window and pulsewidth trigger • Input offset up to ±100% • Multi-card synchronization • Windows program SBench 5.x included

I/O: MULTIFUNCTION

North Atlantic Industries

Website: www.naii.com
Model: 75C1 **RSC No:** 20103
2-module, multi-function, single slot, 3U CompactPCI card • This universal card eliminates the complexity and size constraints of using multiple, independent, single-function cards • The 75C1 CompactPCI card can include the functions of A/D (10-channels), D/A (10-channels), Function Generator (4 channels), Discrete I/O (16 channels), TTL I/O (16 channels), Transceiver I/O (11 channels), and RTD (6 channels) • Interchangeable multi-function design of the 75C1 provides extensive diagnostics and is available in both commercial temperature range and severe environment, industrial temperature range • The library of module types and functions consists of over fourteen modules and is growing

MASS STORAGE: RAID

Adtron

Website: www.adtron.com
Model: EC6M **RSC No:** 18391
Ethernet • 2.16 compatible • Hot swappable blade • Hot swappable media • RAID 1 support • OS support • Temp range is 5° to 55°C

MEMORY: REFLECTIVE

GE Fanuc Automation

Website: www.gefanuc.com/embedded
Model: VMIPMC-5579 **RSC No:** 18500
A fiber optic reflective memory PMC card • Data transferred at up to 13.4 MBps • Error detection • Redundant transmission mode for suppressing errors • No processor overhead • No processor involvement in network operation • 64 MB of reflective memory • D32:D16:D8 memory access • 5 V PMC form factor • PCI target data bursts supported with 33 MBps transfer rates • PCI master DMA controller • Configurable endian conversions for multiple CPU architectures on the network • Software driver for Solaris, Windows NT, VxWorks, DEC UNIX, and OpenVMS

MOTION CONTROL

Tews Technologies

Website: www.tews.com
Model: TIP102/102-TM **RSC No:** 18090
An IndustryPack compatible motion controller

continued on page 177

Your Guide to OpenSystems Publishing

Our mission is to promote the development and use of open standards and new technologies in the embedded computing industry. We continuously scan the industry for emerging standards, developing technologies, and uniquely innovative products. We also work with leading technology firms to develop and publish articles that educate our readers about product innovations, specifications, trends, and real-world applications.

Magazines >

Embedded Computing Design
CompactPCI and AdvancedTCA Systems
PXI Technology Review
PC/104 Embedded Solutions
VMEbus Systems

Catalogs >

PC/104 & Small Form Factor Catalog
CompactPCI and AdvancedTCA Product Resource Guide
VME Product Selection Guide
PXI Product Resource Guide
DSP & FGPA Product Resource Guide
Embedded Industry Product Review
PCI Express Catalog
Industrial Computing Catalog
Military Embedded Catalog

Websites >

Embedded-Computing.com
CompactPCI-Systems.com / AdvancedTCA-Systems.com
PXIonline.com
SmallFormFactors.com / PC104online.com
VMEbus-Systems.com
DSP-FPGA.com

E-Letters & E-Lerts >

DSP-FPGA E-Letter
PC/104 and Small Form Factor E-Letter
CompactPCI and AdvancedTCA E-Leter
PXI E-Letter
VME E-Letter
Embedded E-Letter

CDs >

CompactPCI/AdvancedTCA Interactive Resource Guide
VME Interactive Resource Guide

Newsfeeds >

Embedded Computing Newswire
CompactPCI and AdvancedTCA Newswire
PC/104 and Small Form Factor Newswire
VMEbus Newswire
PXI Newswire
DSP-FPGA Newswire

Magazines for Engineers, by Engineers.

www.opensystems-publishing.com

using incremental encoder • Interface according to IndustryPack specification • Identification-PROM supports auto-configuration • Single size IndustryPack • 24 bit counter per axis • Programmable single, double, or quadruple analysis of count signals • Maximum count frequency: 1.2 MHz • Digital signal filter for suppression of fast noise pulses • Any origin within driving range selectable • Auto-reference procedure • 16 bit D/A converter per axis with ±10V output signal to control servo amplifier • 12 bit A/D converter per axis with adjustable input voltage range, e.g. for connection of a joystick • Four inputs per axis for reference switch, limit switches, emergency stop • Three outputs per axis for control of axis enable and current limiting • TIP102-TM model has: 50 pin flat cable connection to TIP102; signal distribution by three DB connectors per axis in a 6U / 1-slot front panel; encoder interface directly to RS-422 or TTL level, and makes possible signal conditioning of all signals

POWER SUPPLY

Absopulse Electronics

Website: www.absopulse.com
Model: MIW100 Series **RSC No:** 18516
DIN rail mount 100W power supplies • No fan cooling • Standard outputs include 5V, 12V, 24V, 36V, 48V, 72V, and 130VDC although any DC output is available • Fully protected on the input and output • 2-output version and 150W version available • Can be parallel or series connected

Power-One

Website: www.power-one.com
Model: CPA200-4530 **RSC No:** 18365
A 200W, four output, CompactPCI power supply • 90-264VAC input voltage • Up to 40A of +5V or +3.3V in a CompactPCI compatible package • Two additional outputs provide +12V at 5.5A and –12V at 1.5A • Operates over an input range of 36-75 VDC • Front panel-mounted LEDs • 3U x 8HP chassis incorporates a 47-pin Positronic connector • Internal protections: overcurrent, overvoltage, and overtemperature • Interface signals: inhibit, power fail, and temperature warning

Model: CPA250-4530 **RSC No:** 18366
A 250W, four output, CompactPCI power supply • 90-264VAC input voltage • Up to 40A of +5V or +3.3V in a CompactPCI compatible package • Two additional outputs provide +12V at 5.5A and –12V at 1.5A • Operates over an input range of 36-75 VDC • Front panel-mounted LEDs • 3U x 8HP chassis incorporates a 47-pin Positronic connector • Internal protections: overcurrent, overvoltage, and overtemperature • Interface signals: inhibit, power fail, and temperature warning

Telkoor Power Supplies Ltd.

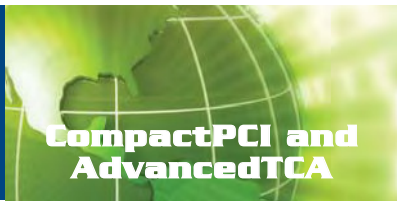
Website: www.telkoor.com
Model: CPCI-DC-6U-350/24 **RSC No:** 18108
CompactPCI 6U 8HP 350 Watt DC power supply • CompactPCI power supply delivering 400W continuous power • Compliant with the PICMG 2.11 • Design using 2 converters in parallel, one for the 3.3V and one for the 5V enable max. current draw on the two outputs together

SOFTWARE: OPERATING SYSTEM

TimeSys

Website: www.timesys.com
Model: TimeSys Linux RTOS **RSC No:** 18270
A single-kernel Linux RTOS • Full Linux distribution based on kernel version 2.4.18 • Royalty-free real-time modules transform Linux into a true RTOS • Low-latency kernel • Full kernel pre-emption • Unlimited process priorities • Constant-time scheduler • Priority schedulable interrupt handlers and SoftIRQs • High-availability/carrier-grade features • POSIX message queues • Unique priority inversion avoidance mechanisms • High-resolution timers • Complete set of more than 120 root filesystem packages • Complete driver support for popular reference boards • Integrated GNU toolchains

ADVERTISER INFORMATION



RSC#	Advertiser/Product Description
1302	Acqiris – High-Speed Digitizers
22	ACT/Technico – Ethernet Switches
15	Adlink – Intel Pentium M Blade
2	Advantech – CompactPCI Platforms
177	AEI – Server Class Fast Ethernet & Gigabit Ethernet Cards
9	Alliance – Carrier-grade AdvancedTCA Platform
28	Alphi – Custom Products and Integrated Systems
81	APLabs – Rugged Systems
83	APW – ATCA, CPCI, VME
11	Artesyn – Telecom Technology
5	AudioCodes – ATCA
6	AZ-Com – Extenders
18	Bustronic – Backplanes
12	Conec – AdvancedTCA CompactPCI
135	Dawn – Model 3800
7	Diversified – AdvancedTCA and CompactPCI based Platforms
84	Elma – ATCA Solutions
132	Elma – Enclosures, Panels, Handles
8002	Embedded Planet – Embedded PowerPC/Xscale
8702	EPT – 2.0 Hardmetric Connectors System
17	Excalibur – Rugged Systems
61	Fulcrum 9, Inc – AdvancedTCA
24	Hybricon – Packaging Solutions
41	Kaparel – Packaging Solutions
20	Kontron – ATCA/AMC Solutions
26	LeanPac/Nextronics – Turnkey Service
35	Meecc – Military Embedded Electronics & Computing Conference
162	Micrel – PCI v2.x and PCI Express
85	NAT – Innovation in Communication
59	One Stop – MAX Express
27	Performance Tech – Reliable and Integrated Building Blocks
29	Performance Tech – Advanced Managed Platforms
79	Positronic – Power Connectors
1301	Positronic – Power Connectors
10502	Radian – Tailored PXH Thermal Solutions
15401	Red Rock – Mass Storage Modules
107	SBE – TCP/IP Offload Engine (TOE)
179	SBS – CK5
10	Schroff – CompactPCI 2.16 Chassis
3	Simon Industries – Front Panel Services
7702	SMA – CompactMAX CPU7.2
21	Sundance – SMT3000, SMT300, SMT7008
23	Sundance – SMT791, SMT787, SMT795
25	Sundance – SMT6050, Diamond RTOS, GDD600 & GDD8000
15402	Tews – Embedded I/O Solutions
4002	Vision Power – Power Supply Solutions
180	Vmetro – Bus Analyzers
19	Voiceboard – VoIP on cPCI
155	Winchester – Power Connectors

PRODUCT PROFILES

RSC#	Company/Category
11101	Aculab – Media processors
158	Adax – Network/communication interfaces
36	ADLINK Technology Inc. – Boards
161	ADLINK Technology Inc. – PCI-ISA processors
119	Advantech Corporation Network Computing – PICMG 2.16/CPSB
13601	Aitech Defense Systems Inc. – Ruggedized
13602	Aitech Defense Systems Inc. – Ruggedized
55	Alliance Systems – Servers
140	Alliance Systems – Servers
56	American Portwell Technology Inc. – Servers
115	AMTELCO XDS – Network/comm. interfaces
98	AP Labs – Enclosures
60	APW Electronic Solutions – Shelf & mechanical components
74	APW Electronic Solutions – Thermal management
93	APW Electronic Solutions – Chassis
34	Artesyn Communication Products – Blades
33	Artesyn Communication Products – Blades
52	Astec Power – Power mgmt/entry modules
37	AudioCodes – Boards
54	Avnet Electronics Marketing – Reference design
64	Avnet Electronics Marketing – Systems
11102	Ballard Technology – MIL/COTS
13701	Ballard Technology – Ruggedized
12101	C&D Technologies, Inc. – Power supplies
12102	C&D Technologies, Inc. – Power supplies
6501	Carlo Gavazzi Computing Solutions – Systems
9001	Carlo Gavazzi Computing Solutions – Backplanes
9702	Carlo Gavazzi Computing Solutions – Enclosures
12001	Carlo Gavazzi Computing Solutions – PICMG 2.17
13702	Carlo Gavazzi Computing Solutions – Ruggedized
16702	Carlo Gavazzi Computing Solutions – PMCs
10601	Concurrent Technologies – Hot swap boards
11702	Concurrent Technologies – PICMG 2.16
112	Condor Engineering – MIL/COTS
66	Continuous Computing – Systems
144	Continuous Computing – Systems
86	Dawn VME Products – Accessories
9901	Dawn VME Products – Enclosures
5801	Diversified Technology, Inc. – Servers
6502	Diversified Technology, Inc. – Systems
11801	Diversified Technology, Inc. – PICMG 2.16
11602	DSS Networks, Inc. – Network/comm. interfaces
11802	DSS Networks, Inc. – PICMG 2.16
15901	DSS Networks, Inc. – Network/comm. interfaces
3001	Elma Bustronic – Acccessories
89	Elma Bustronic – Backplanes
67	Elma Electronic – Systems
145	Elma Electronic – Systems
68	Embedded Communications Computing Group – Systems
125	Embedded Communications Computing Group – Processor boards
146	Embedded Communications Computing Group – Systems
147	Embedded Communications Computing Group – Systems
148	Embedded Communications Computing Group – Systems
10602	Embedded Planet – Hot swap boards
16401	Embedded Planet – PrPMCs
16402	Embedded Planet – PrPMCs
16501	Embedded Planet – PrPMCs
42	ERNI Electronics, Inc. – Connectors
69	ESO Technologies – Systems
10501	Fastwel Co. Ltd – Hot swap boards
51	Fulcrum9, Inc. – Load/test boards
50	Fulcrum9, Inc. – Load/test boards
75	Fulcrum9, Inc. – Thermal management
76	Fulcrum9, Inc. – Thermal management
9102	GE Fanuc Embedded Systems, Inc. – Blades
12701	GE Fanuc Embedded Systems, Inc. – Processor boards
12702	GE Fanuc Embedded Systems, Inc. – Processor boards
14201	Geotest-Marvin Test Systems, Inc. – Switches
15301	Geotest-Marvin Test Systems, Inc. – Test instrumentation
9002	Hartmann Elektronik GmbH – Backplanes
9902	Hybricon Corporation – Enclosures
10001	Hybricon Corporation – Enclosures
94	Hypertronics Corporation – Connectors
9502	Innovative Integration – DSPs & FPGAs
9501	Innovative Integration – DSPs & FPGAs
9601	Innovative Integration – DSPs & FPGAs
11701	Innovative Integration – PCMCIA/CardBus/PC Card
151	Inova Computers, Inc. – Systems
8801	Interactive Circuits and Sys. Ltd. – Analog I/O
8802	Interactive Circuits and Sys. Ltd. – Analog I/O
3102	Kaparel Corporation – Backplanes
5802	Kaparel Corporation – Shelf & mechanical components
9101	Kaparel Corporation – Backplanes
10002	Kaparel Corporation – Enclosures
38	Kontron – Boards
104	Kontron – Hot swap boards
163	Kontron – AMCs
9602	Lyrtech – DSPs & FPGAs
9701	Lyrtech – DSPs & FPGAs
3201	Mellanox Technologies – Backplanes
15601	Mellanox Technologies – Bridges
126	MEN Micro, Inc. – Processor boards
157	National Instruments – I/O boards
12401	Next Power Corp. – Power supplies
39	NMS Communications – Boards
10101	One Stop Systems – Enclosures
15602	One Stop Systems – I/O boards
70	Optovia – Systems
12002	Parsec (Pty) Ltd. – PICMG 2.17
16502	Parsec (Pty) Ltd. – PMCs
16601	Parsec (Pty) Ltd. – PMCs
16602	Parsec (Pty) Ltd. – PMCs
141	Pentek, Inc. – Software-defined radio
10102	Performance Technologies – Enclosures
11601	Performance Technologies – Network/communication interfaces
12402	Performance Technologies – Processor boards
14202	Performance Technologies – Switches & routers
10201	Phillips Components – Front panel hardware
57	Pinnacle Data Systems, Inc. – Servers
5301	Potentia Semiconductor – Power management/entry modules
5302	Potentia Semiconductor – Power management/entry modules
114	Pro-Dex/Oregon Micro Systems – Motion control
113	Pro-Dex/Oregon Micro Systems – Motion control
10202	Purcell Technologies – Front panel hardware
3002	Radian Heatsinks – Acccessories
7701	Radian Heatsinks – Thermal management
8701	Radian Heatsinks – Accessories
13401	Radian Heatsinks – Prototyping
15302	Radian Heatsinks – Thermal management
71	RadiSys Corporation – Systems
10801	Red Rock Technologies, Inc. – Mass storage
10802	Red Rock Technologies, Inc. – Mass storage
10901	Red Rock Technologies, Inc. – Mass storage
10902	Red Rock Technologies, Inc. – Mass storage
63	Renesas Technology – System management
12201	SAE Power Inc. – Power supplies
12202	SAE Power Inc. – Power supplies
11001	SANBlaze Technology, Inc. – Mass storage
11002	SANBlaze Technology, Inc. – Mass storage
16701	SANBlaze Technology, Inc. – PMCs
17202	SANBlaze Technology, Inc. – PMCs
73	SBS Technologies – Telecom interfaces
12801	SBS Technologies – Processor boards
12802	SBS Technologies – Processor boards
13801	SBS Technologies – Ruggedized
13802	SBS Technologies – Ruggedized
139	SBS Technologies – Ruggedized
14301	SBS Technologies – Switches & routers
15902	SBS Technologies – Network/comm. interfaces
62	Schroff® – Shelf & mech. comp. (Enclosures)
129	SMA Computers – Processor boards
72	Sun Microsystems, Inc. – Systems
130	Sun Microsystems, Inc. – Processor boards
131	Sun Microsystems, Inc. – Processor boards
150	Sun Microsystems, Inc. – Systems
149	Sun Microsystems, Inc. – Systems
16801	Technobox, Inc. – PMCs
16802	Technobox, Inc. – PMCs
16901	Technobox, Inc. – PMCs
16902	Technobox, Inc. – PMCs
17001	Technobox, Inc. – PMCs
17002	Technobox, Inc. – PMCs
17101	Technobox, Inc. – PMCs
46	TeraChip – Fabric switches
17102	The Evergreen Group Inc. – PMCs
47	Tundra Semiconductor Corp. – Fabric switches
3101	Tyco Electronics – Acccessories
4301	Tyco Electronics – Connectors
4302	Tyco Electronics – Connectors
4401	Tyco Electronics – Connectors
4402	Tyco Electronics – Connectors
152	Tyco Electronics/Printed Circuit Group – Systems
92	V Rose Microsystems – Blades
4001	Virtium Technology Inc. – Components
78	Wolf Industrial Systems Inc. – Thermal management
12301	Wolf Industrial Systems Inc. – Power supplies
12302	Wolf Industrial Systems Inc. – Power supplies
133	Wolf Industrial Systems Inc. – Prototyping
17201	Wolf Industrial Systems Inc. – PMCs
16001	Wolf Industrial Systems Inc. – Systems on modules
3202	Xilinx – Backplanes
49	XTech – Front panel hardware
103	XTech – Front panel hardware
45	Yamaichi Electronics USA, Inc. – Connectors
173	Zephyr Engineering – PMCs
48	ZNYX Networks, Inc. – Fabric switches

Fast. And cool.

CK5

- CompactPCI
- Convection or conduction cooled (-40° C to +85° C)
- Dual PMC sites
- PowerPC® MPC7447A G4 processor
- Marvell® MV64460 (Discovery III) System Controller
- Flash Rom write protection
- Eight programmable GPIO ports
- VITA 47 compliant

SBS knows PowerPC®. Our CompactPCI single board computers are rugged, powerful and conduction or convection cooled.

The new CK5, for example, is a rugged 6U CompactPCI® SBC with fast processor and bus speeds plus large system memory capacities. It features the MPC7447A G4 processor from Motorola® at speeds up to 1 GHz. The CK5 integrates the new Marvell® MV64460 (Discovery III) System Controller bridge chip with a high-speed SDRAM controller and DDR SDRAM densities up to 512 MB. It is offered as a conduction or a convection cooled board.

As part of our ongoing commitment to lifecycle management, the CK5 retains the same backplane PMC interfaces as the previous generation to support existing applications. Like many SBS products, the CK5 was designed to facilitate technology insertion and system upgrades. The CK5 supports VxWorks®, Linux and other popular operating systems.

The CK5 is designed for use in a wide variety of applications requiring real-time control and low heat dissipation in extreme operational environments, such as avionics, navtronics, radar, security, surveillance, communications and industrial automation. If you're designing for these conditions, keep your cool and give us a call or visit our website at www.sbs.com.

SBS Technologies.

SBS knows. To find out more, visit us at **www.sbs.com** or call us at **800.SBS.1553**

Keep your project on course!

Powerful

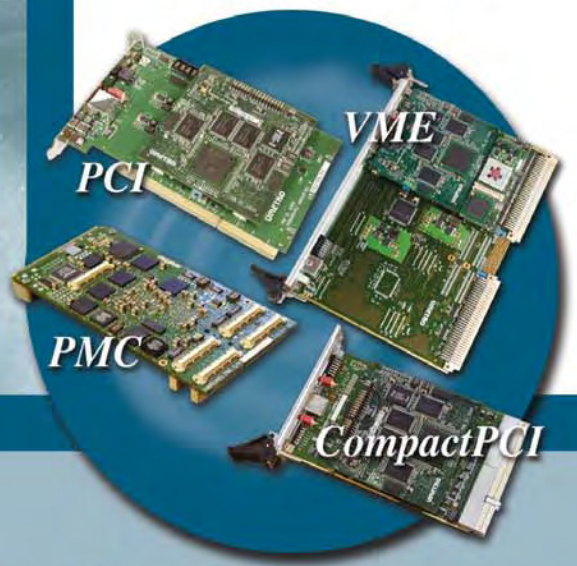
- Concurrent operation of State Analyzer, Statistics, Protocol Checker and Exerciser
- Multiple sampling modes
- Provides a trace buffer of 256 bits x 2MSamples

Flexible

- Ethernet or USB host connection
- Available for PCI/PCI-X, PMC, CompactPCI and VME bus architectures

Easy to Use

- Full Decoding and Demultiplexing of Bus Traffic
- Multi-level Trace Viewer allows varying levels of detail



With Vanguard **Bus Analyzers**

For more information, please visit **analyzer.vmetro.com** or **call (281) 584 0728** today for a product CD.

VMETRO TRANSTECH

RSC# 180 @www.compactpci-systems.com/rsc